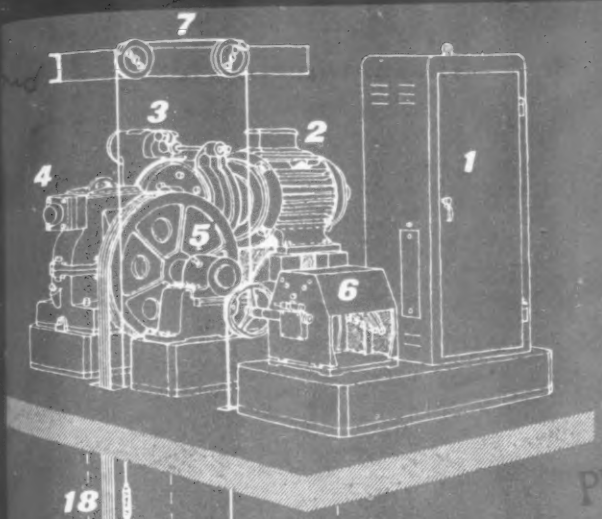
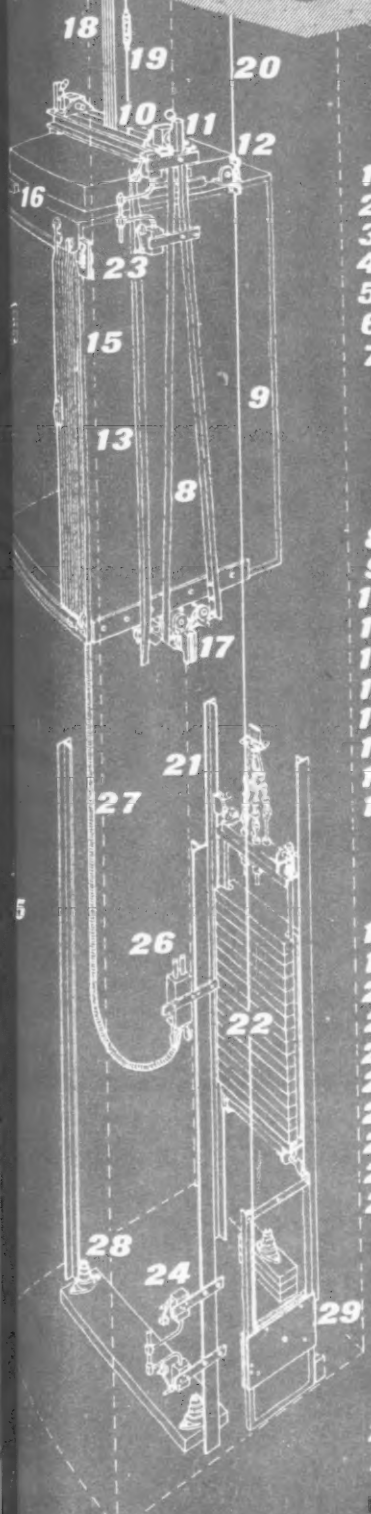


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MOTOR ROOM

1 *Controller.*
2 *Lift motor.*
3 *Electro-mechanical brake.*
4 *Worm reduction gear.*
5 *Driving sheave and end bearing.*
6 *Floor selector.*
7 *Safety rope pulleys.*

CAR

8 *Car sling.*
9 *Car bodywork.*
10 *Rope equalizer.*
11 *Guide shoes.*
12 *Anchorage for floor selector tape.*
13 *Cam for operating limit switches.*
14 *Retiring cam.*
15 *Collapsible steel gate.*
16 *Car gate contact.*
17 *Instantaneous safety gear.*

WELL

18 *Suspension ropes.*
19 *Safety rope.*
20 *Floor selector tape.*
21 *Car and counterweight guides.*
22 *Counterweight.*
23 *Normal and final limit switches (Top Floor).*
24 *Normal and final limit switches (Lowest floor).*
25 *Electro-mechanical gate or door locks on landing.*
26 *Halfway box.*
27 *Travelling cable.*

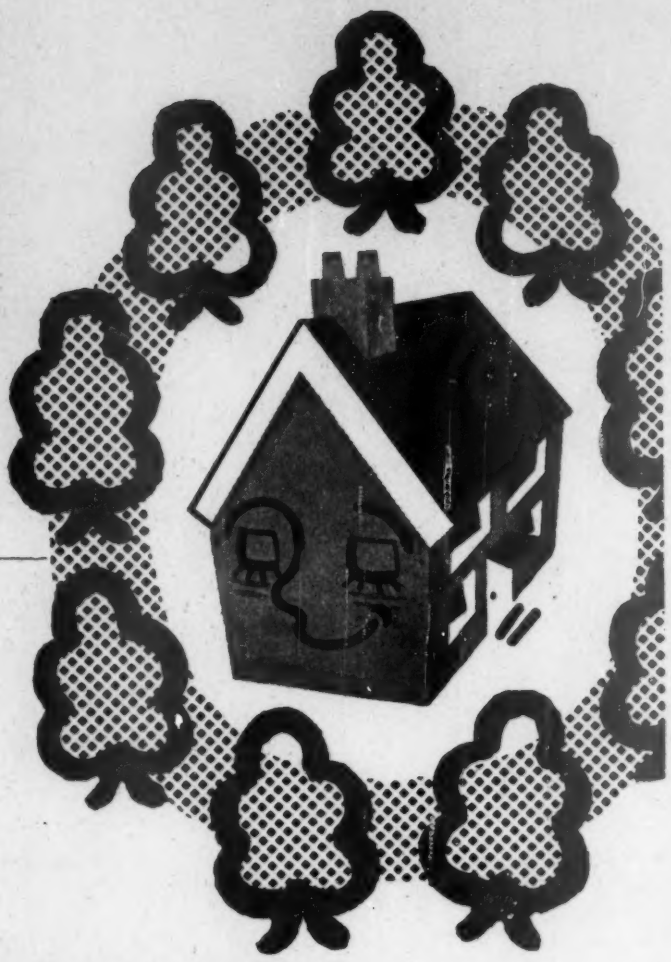
PIT

28 *Car and counterweight buffers.*
29 *Floor selector tape tension weight and pulley.*

THE ARCHITECTURAL REVIEW VOLUME CXVII NUMBER 695 FEBRUARY 1955 FIVE SHILLINGS

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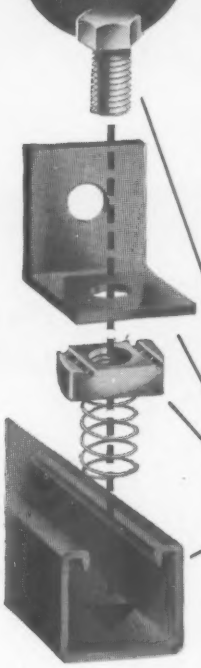
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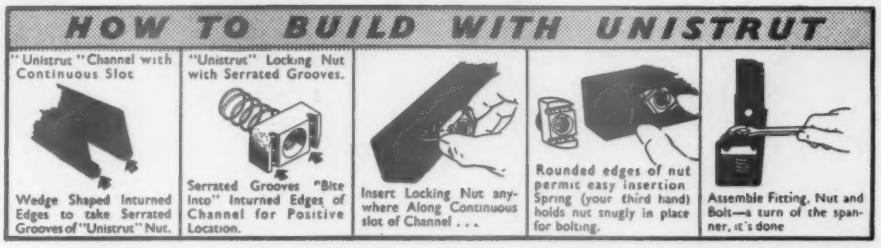
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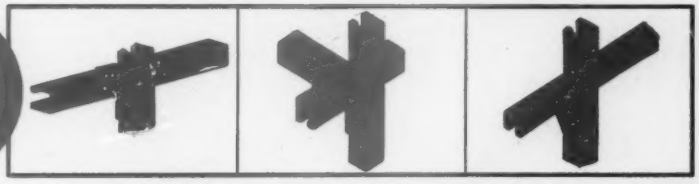
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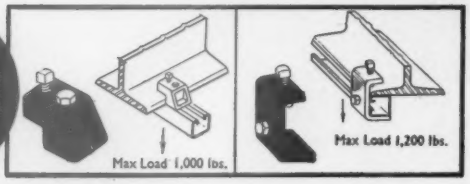
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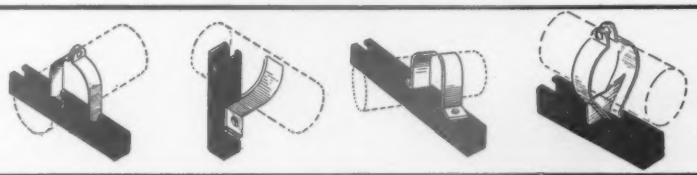


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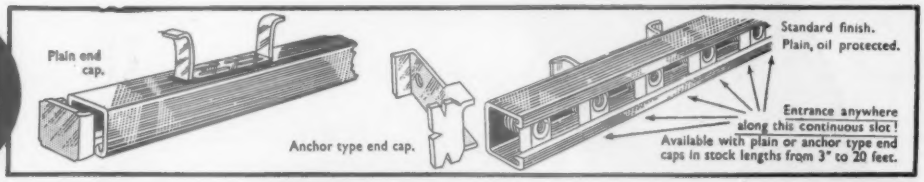


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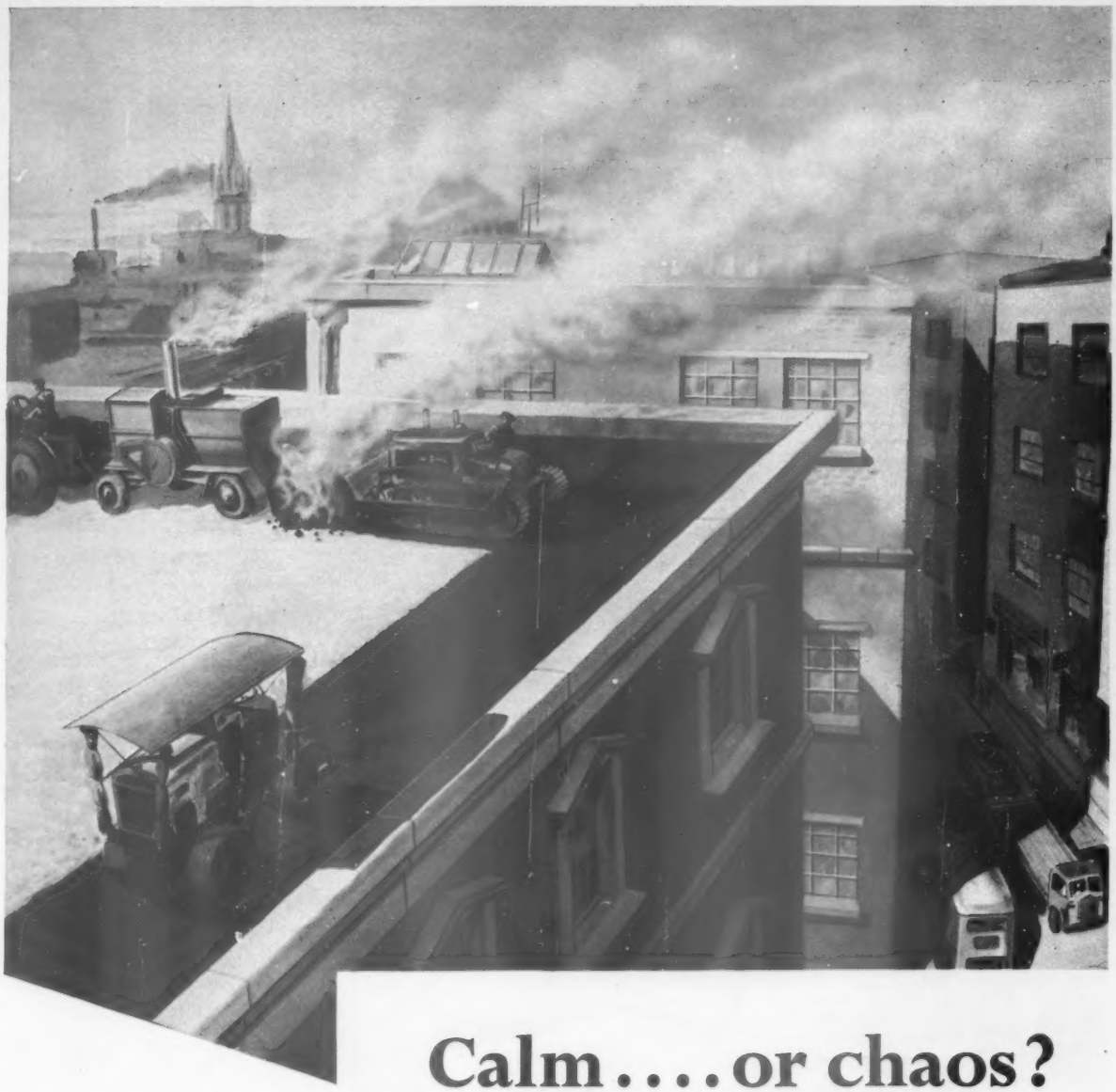
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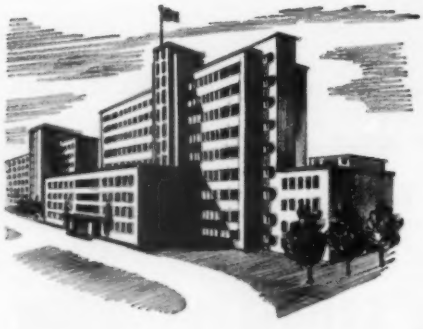
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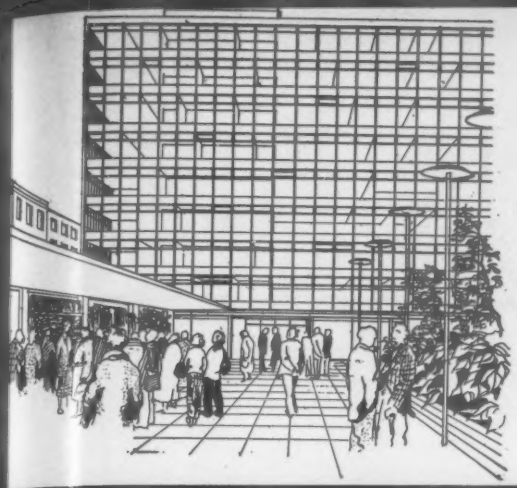


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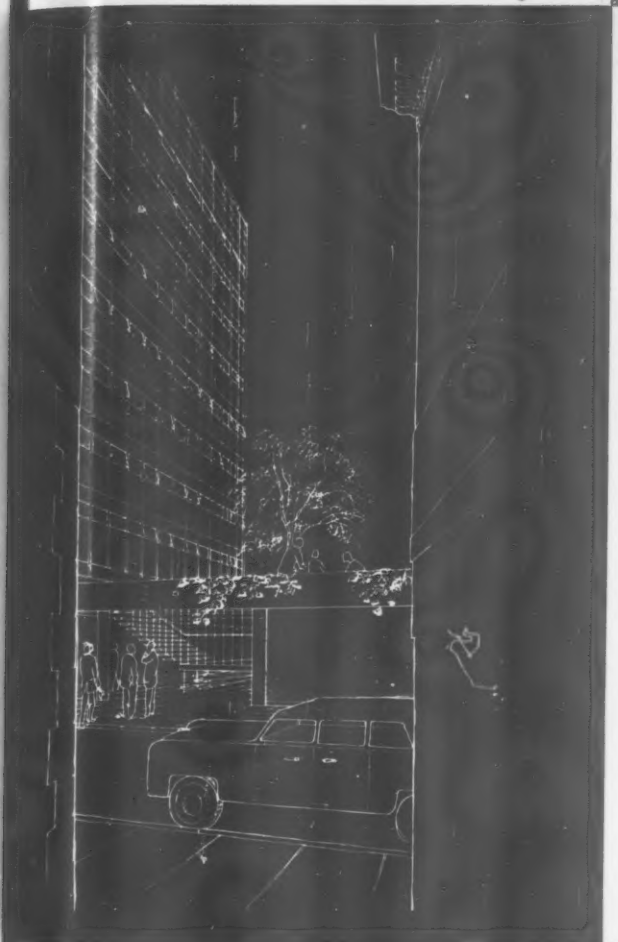
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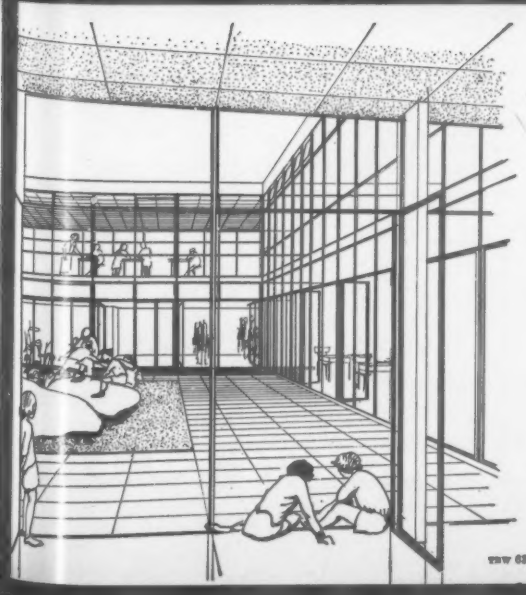


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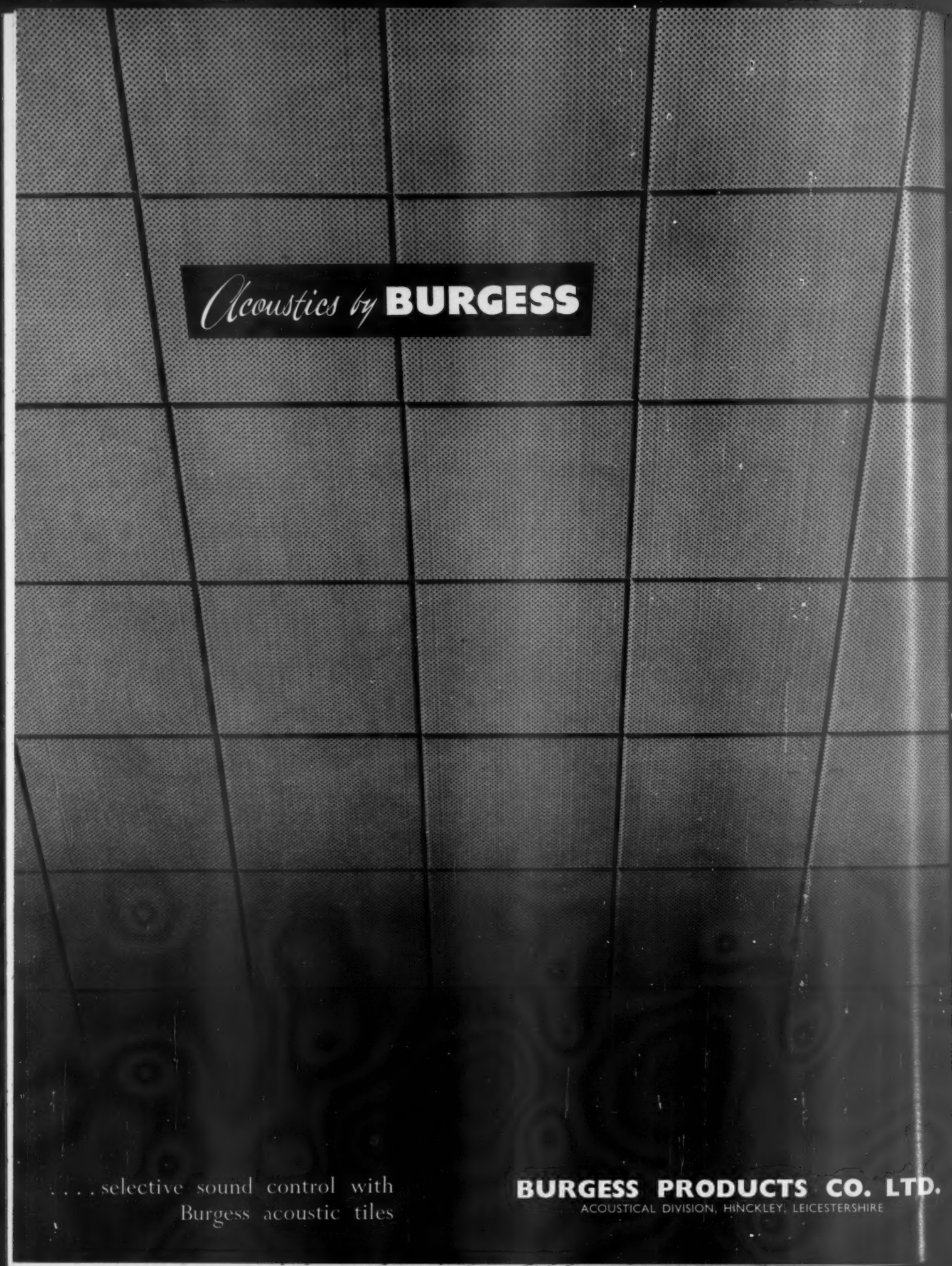


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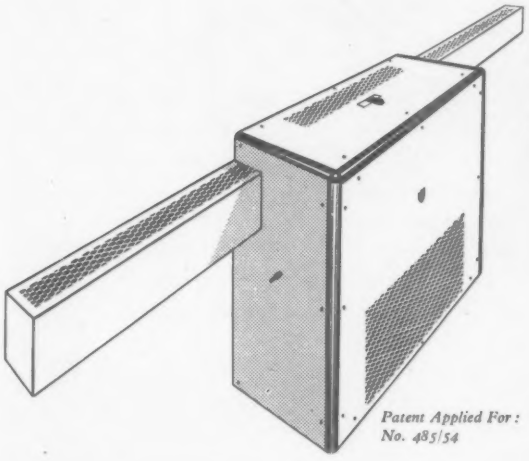

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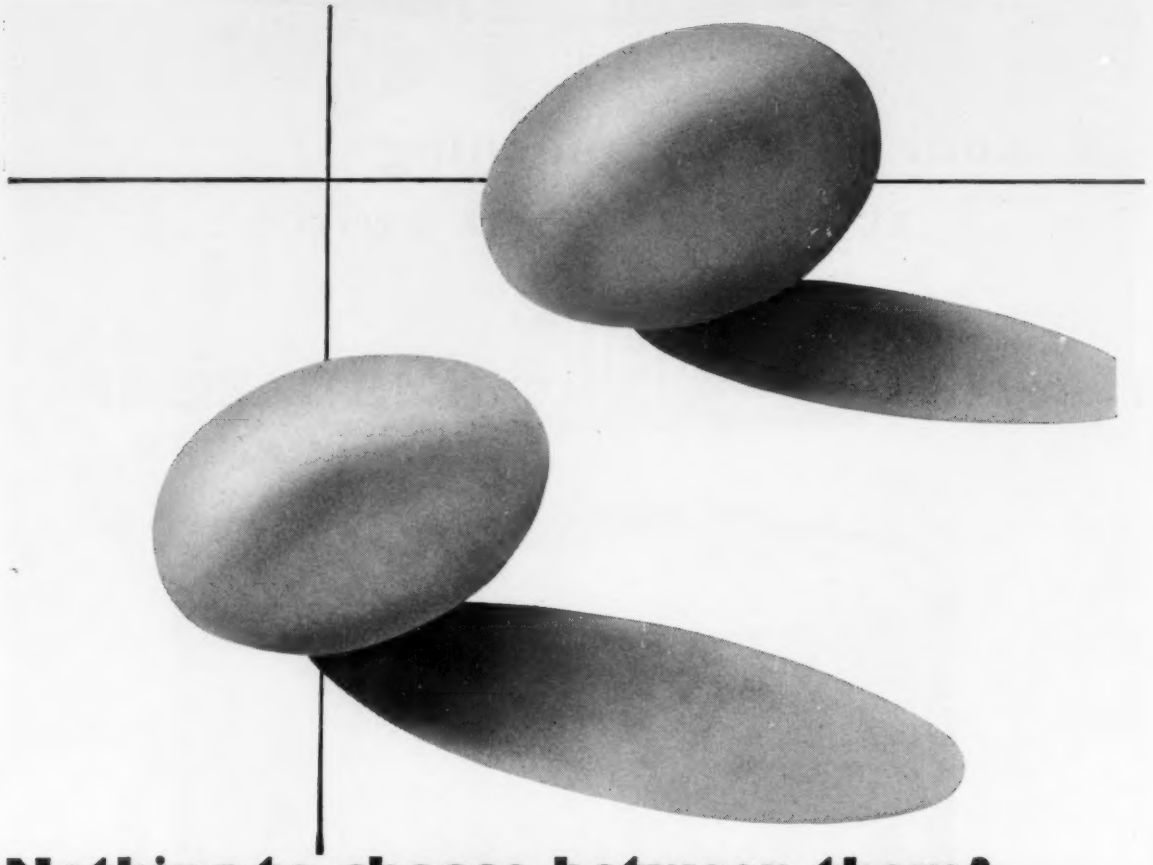
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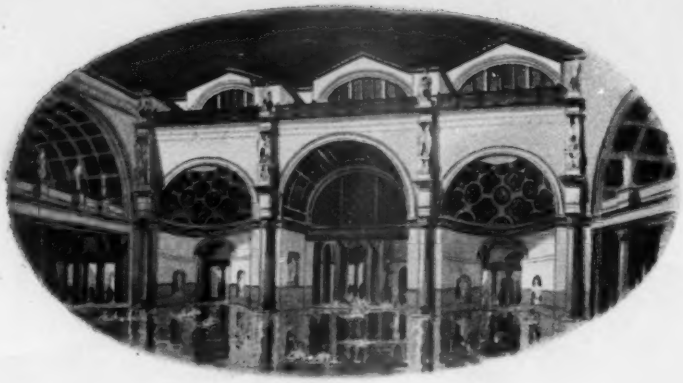
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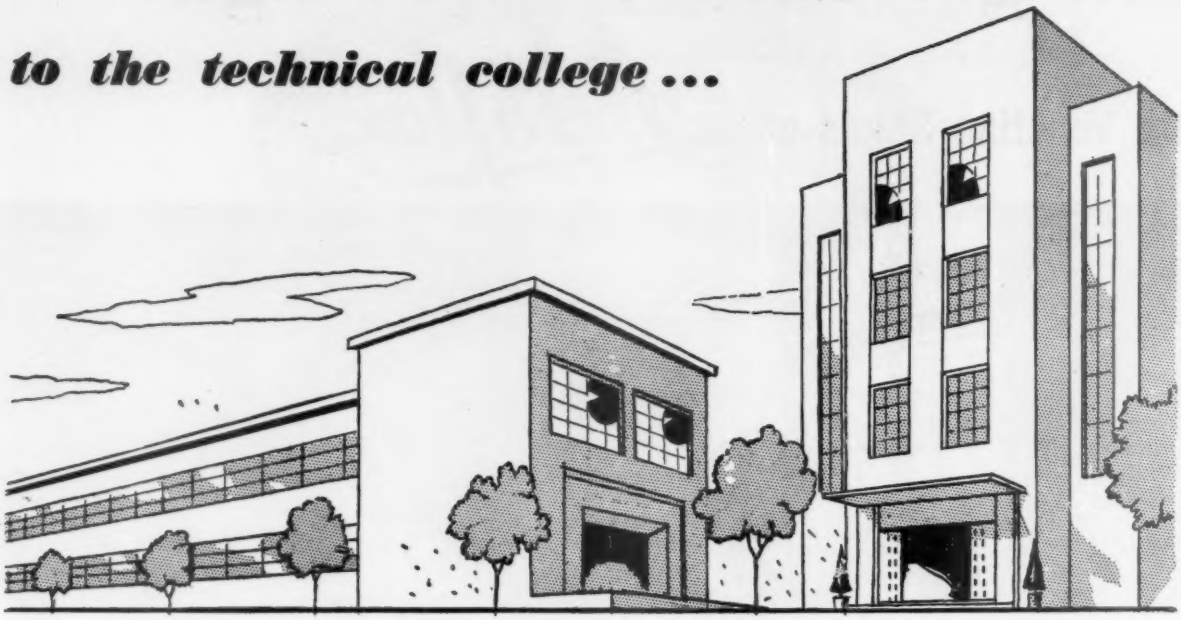
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TECH Is that a fact ?

FLATS One of my tenants went to see a patient there, and she says there are stains and rust marks dribbling down the walls.

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FLATS You'd be suprised how many still try and get by with ordinary putty. Well, look at the hospital.

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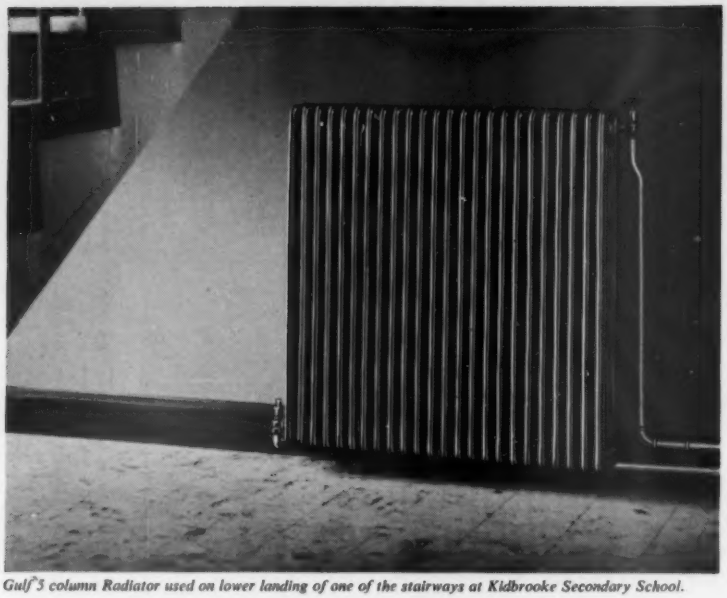
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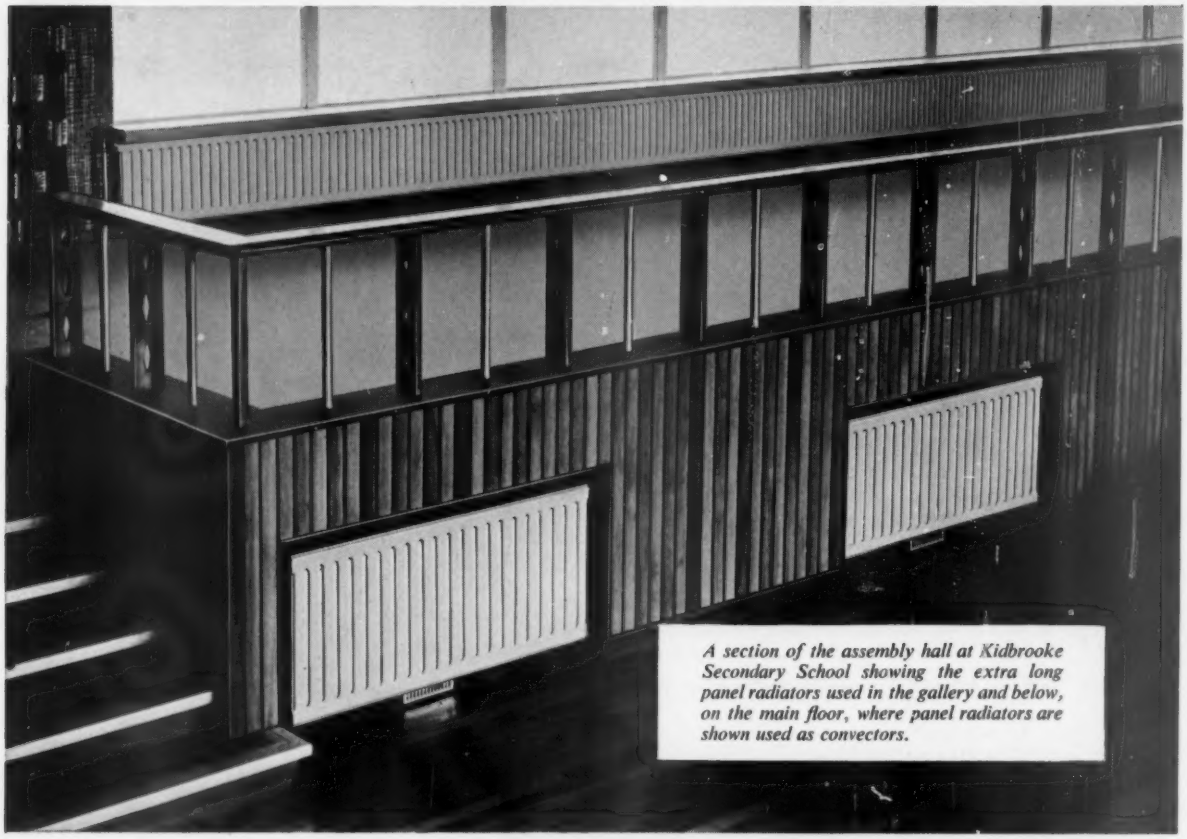
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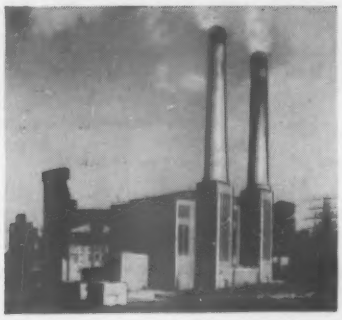
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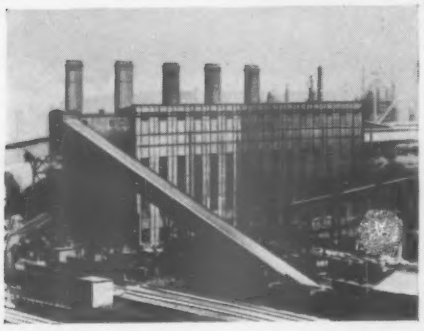
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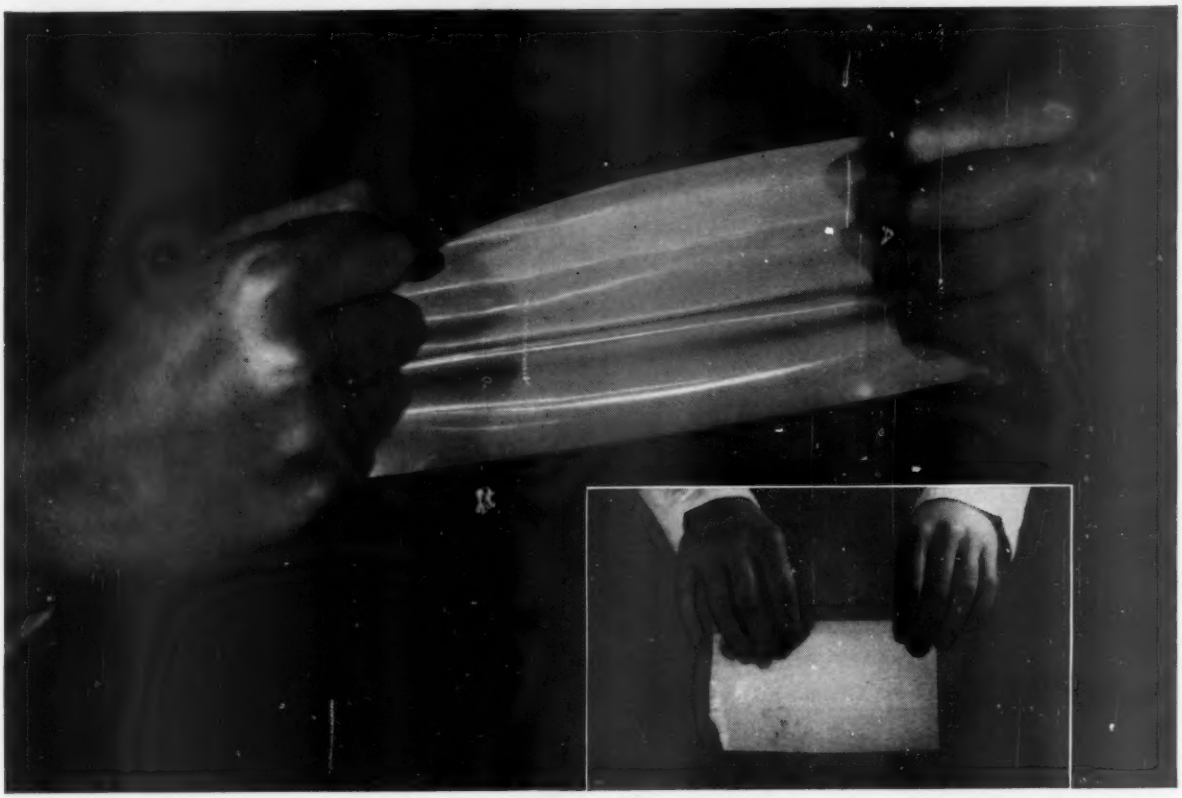
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INSIDE STORY



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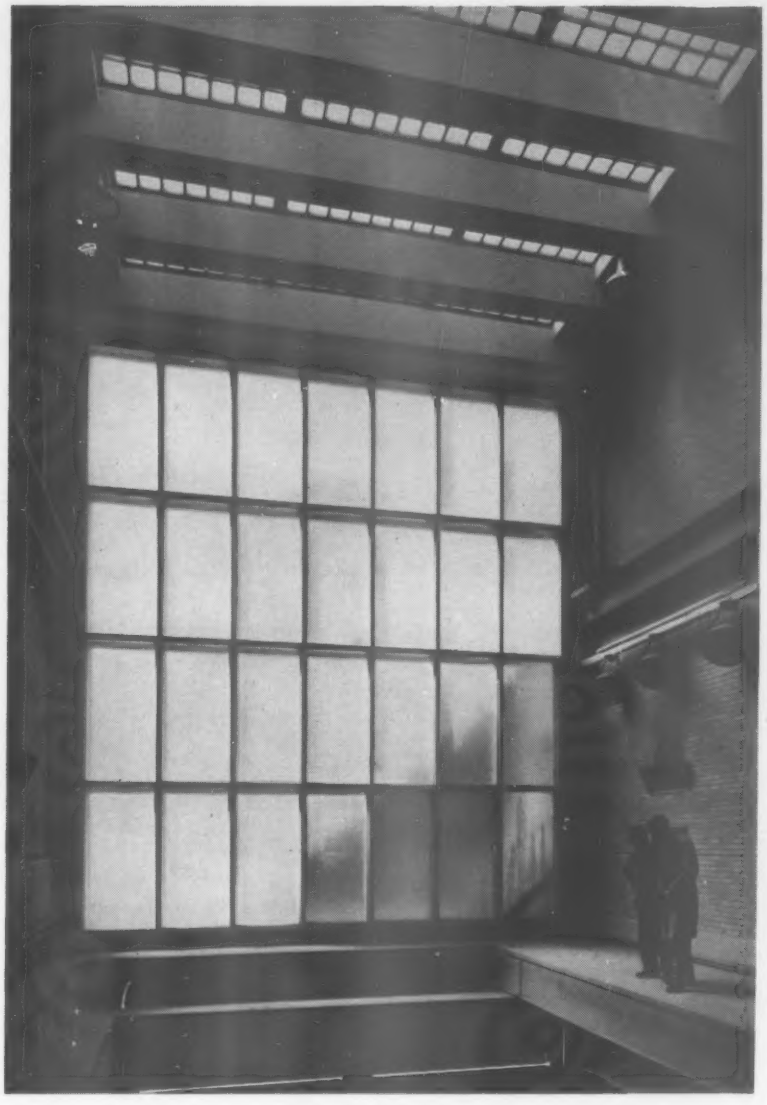
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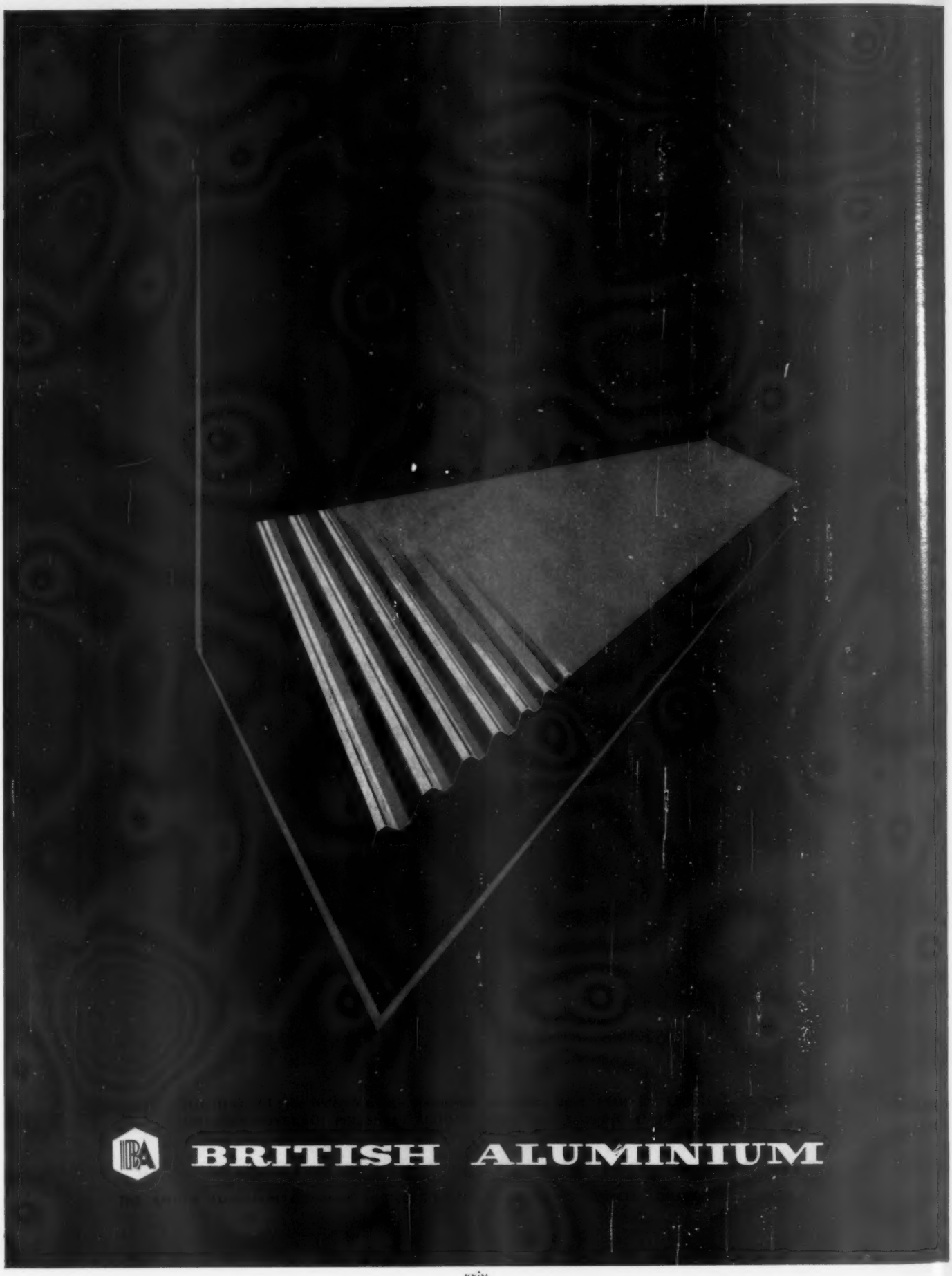
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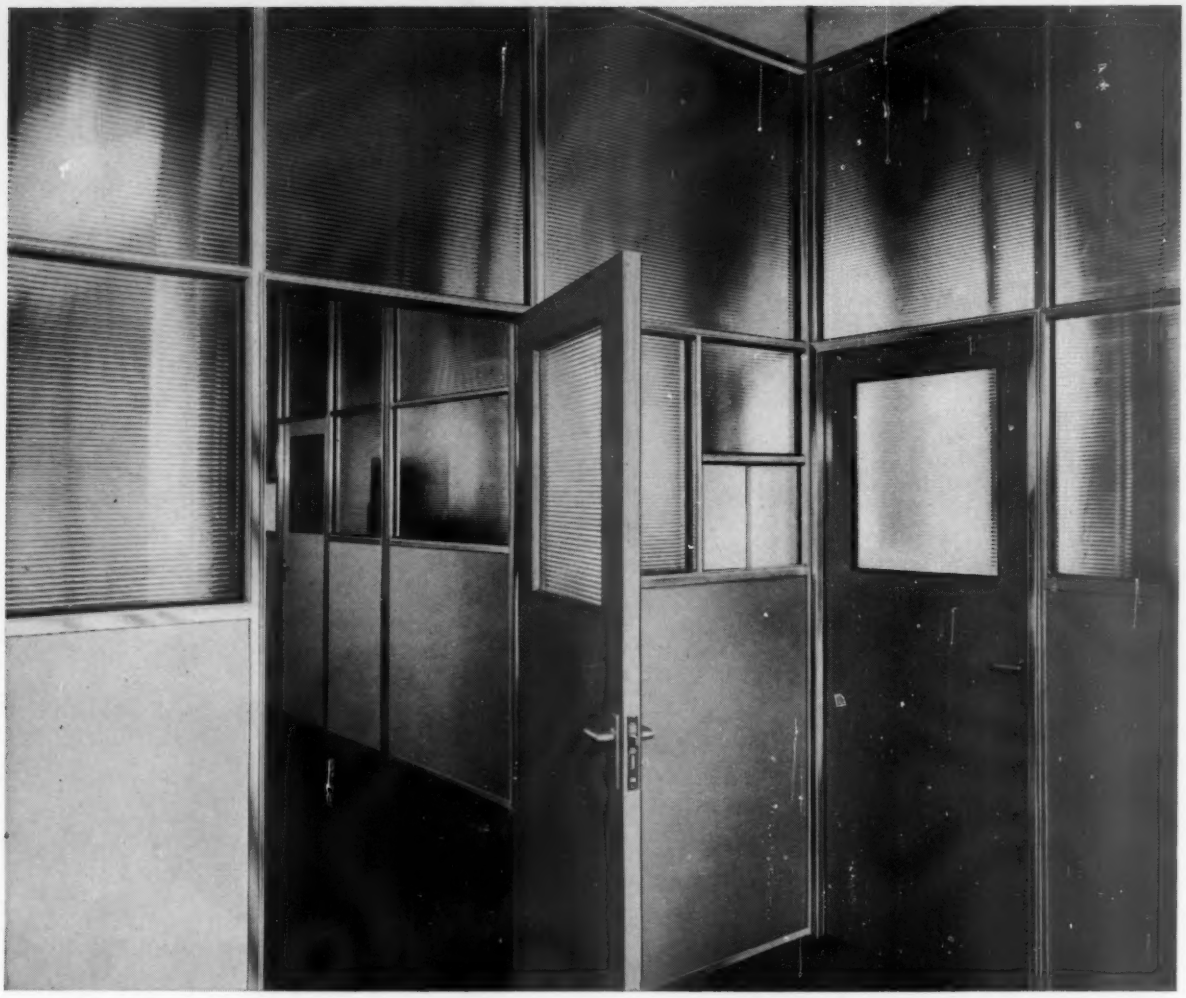
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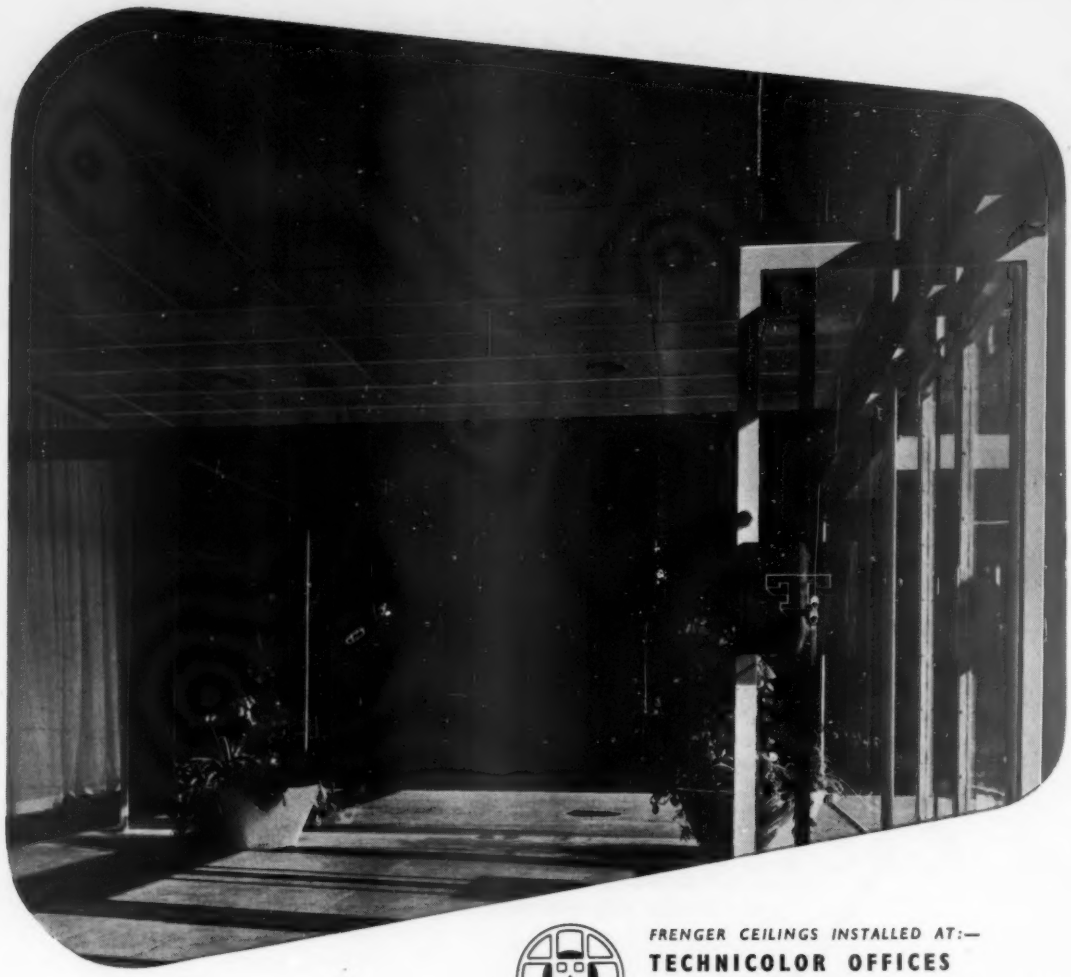
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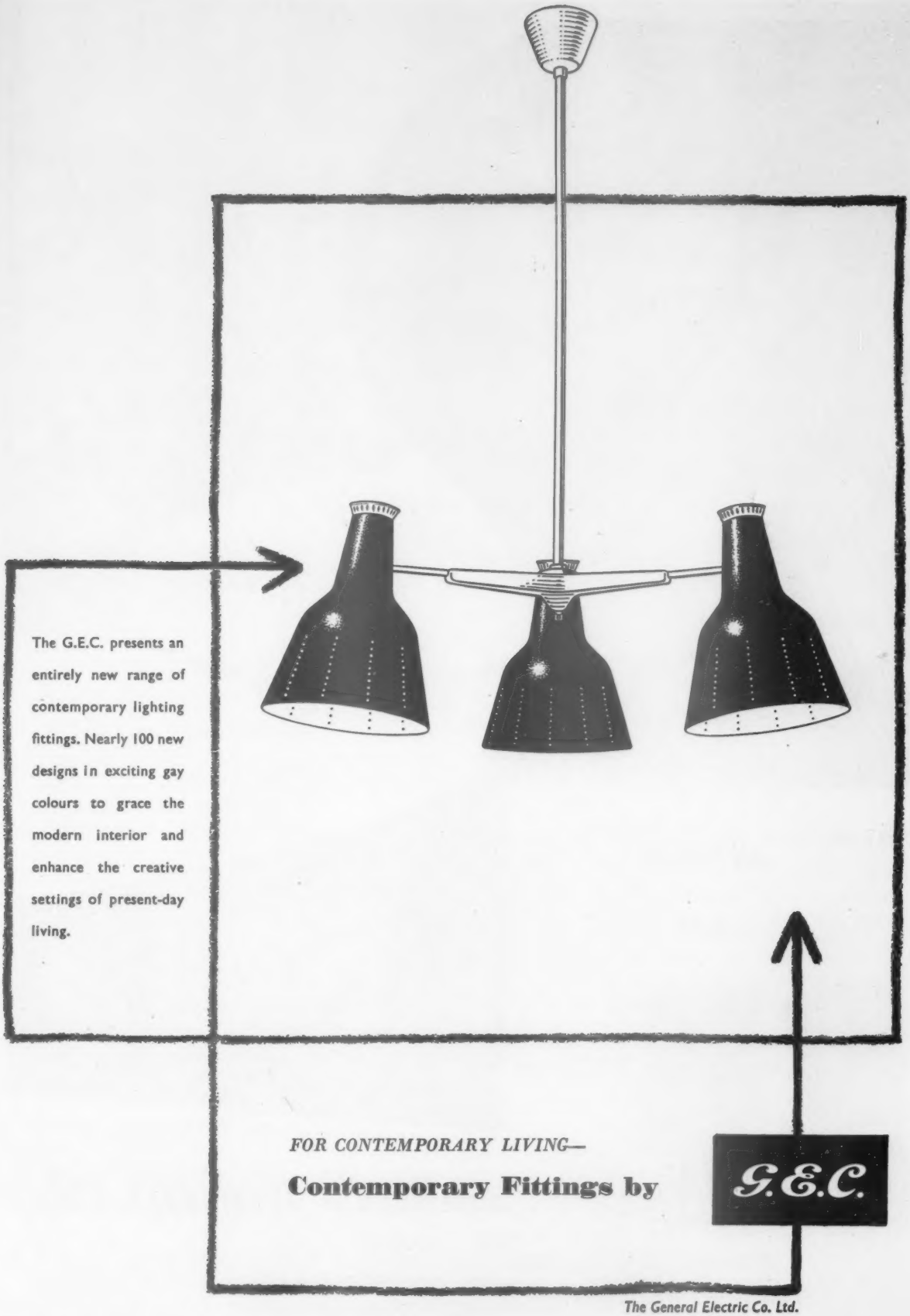
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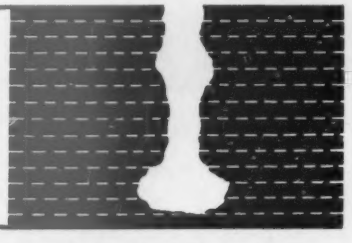
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Photo : Staff canteen of the National City Bank of New York, London, E.C.2.

"All quiet" in the city

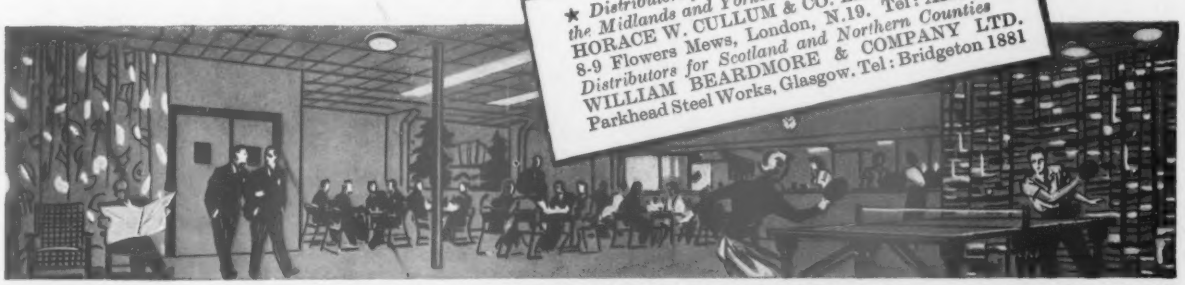
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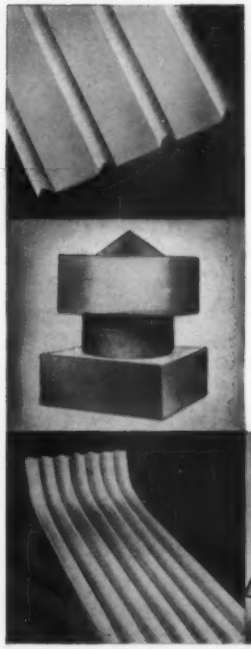
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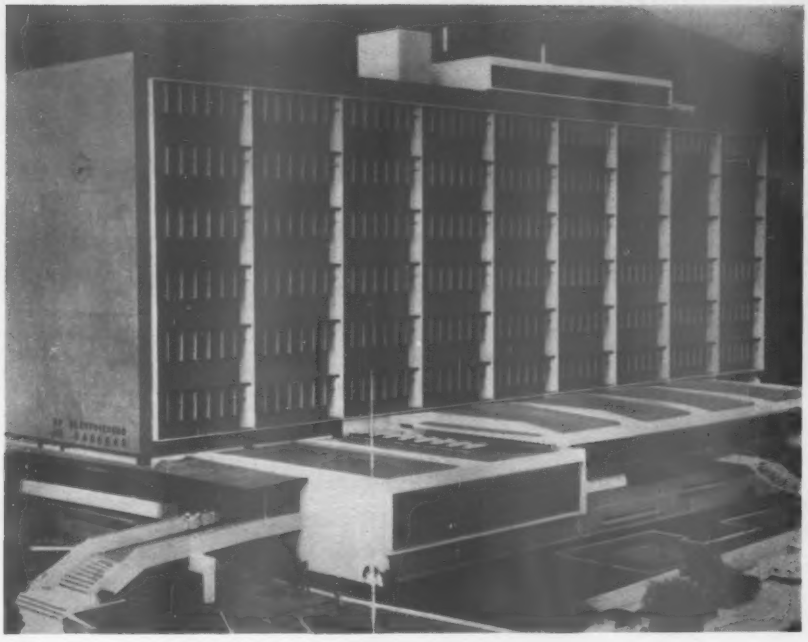


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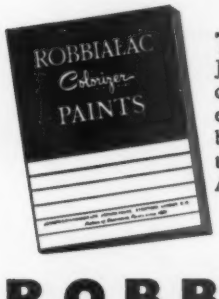
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The painting contractor had no difficulty in matching the unusual greys specified for the interior of the new Pimlico Housing Estate. He found them all in Robbialac Colorizer Emulsion Paint.

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6 fresh views on flooring

expressed by

HUMPHREY SPENDER *in this issue*
FELLO ATKINSON
OLIVER COX
F.H.K. HENRION
PRUNELLA CLOUGH
LAURENCE SCARFE
and edited by

Sir Hugh Casson R.D.I., M.A., F.R.I.B.A.

In seeking a theme for a series of features on flooring as an integral element of interior design, the manufacturers of Semastic Tiles commissioned Sir Hugh Casson to make his recommendations.

He proposed that a number of leading designers be given the opportunity to express their views on this matter by designing floors for a number of imaginary projects which he himself would suggest by way of initial plans and briefings. He has, therefore, in association with these designers prepared plans for :— an Airport Waiting Lounge
a Youth Hostel Dayroom · a Works Canteen · a Restaurant
a Clinic · a School Entrance Hall.

Each of the six designers selected has been invited to choose one of these projects and to consider it from the aspect of floor-design in order to demonstrate the scope of Semastic Decorative and Vinyl Asbestos Tiles. The materials which may be used are as follows :

Semastic Tiles. Decorative and domestic grades. These are thermo-plastic resin-bonded tiles which are available in a very attractive colour range, in plain and marbled finishes. By cutting to shape and by contrasting and blending colours, design possibilities are virtually unlimited.

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Since Semastic Tiles are resistant to the effects of insect attack and extremes of climate, the designs under discussion could equally well have tropical application.

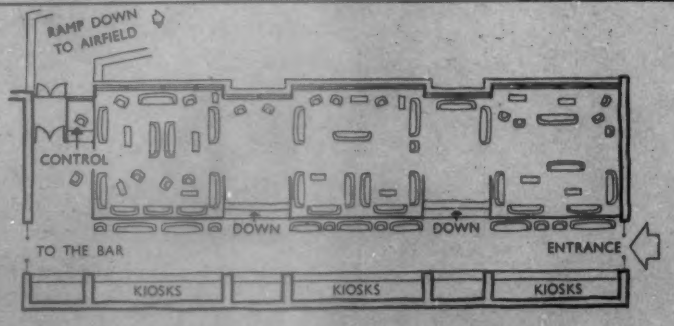
THE PROBLEM AS SET TO HUMPHREY SPENDER

The Airport Waiting Lounge for which the floor is to be designed is envisaged at first floor level above the Arrival and the Customs concourse. It is to measure approximately 100 feet x 30 feet (see plan at right) with one window wall overlooking the aerodrome.

The room itself is planned on two levels :

(a) a high-level gangway which passes the bar, concession kiosks, and enquiry desks on one side and balustrade and banquettes on the other to the main exit which leads down a ramp to the aircraft ;

(b) approximately 18" below the gangway is the waiting area. This is divided into three " bays " by access steps and by the modulation of the window line to aid grouping of passengers by destinations.



1 OF SERIES

Humphrey Spender

AIRPORT WAITING LOUNGE

This particular problem involves areas of floor with two distinct functions: areas for passenger circulation and areas for rest.

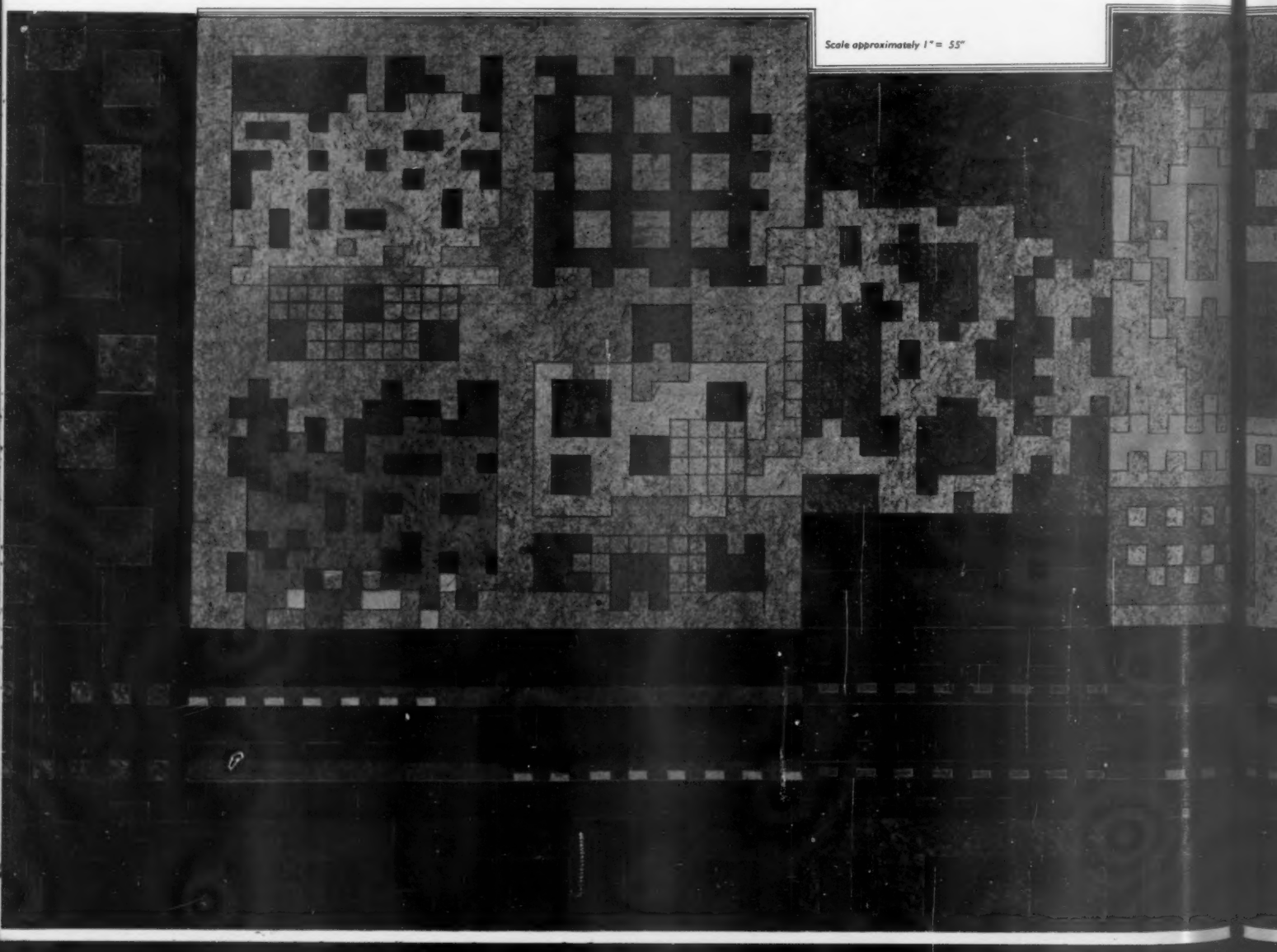
Circulation areas, being constantly moved over and half obscured, can carry a pattern of greater tonal contrast, more disturbing to the eye, than that carried by 'rest' areas, which must not distract by sharp contrasts or too disruptive a pattern. (Steps should avoid 3 D 'trip-up' effect and are therefore treated in one colour).

Thus the raised gangway which is a wide corridor entirely for movement and circulation, carries a strongly directional design ranging from darkest to lightest tones with sharp contrasts. The lights and signs and display in the kiosks which edge this corridor will take up the colour accents in the floor.

The bays for waiting, rest and reading carry a pattern restful in colour and contrast, undistracting to the reading or somnolent eye, soothing to the apprehensive nerve. Cool colours, gentle contrast.

The three bays are divided from each other by the approaches to the subsidiary balconies. By a slight intensification in tone these have been defined as areas of minor circulation, but the pattern of the three bays flows into and through them so as to link the three bays together. Such a large floor area as this, not visible from an upper gallery, could not be seen as a coherent whole except by one suspended from the ceiling, or by the artist on his paper. Thus the design cannot *depict* by representational motive —(where uninterrupted view is essential)—but should suggest by associative idea in an abstract and rather fragmentary way, still pleasant to the eye when only partially seen.

The associative suggestion intended here is of aerial view: field pattern, townscape, runway; from the far lounge to the exit a progression from runway to townscape: colour suggesting sky, cloud, space, distant mountain range. Areas of broken textured pattern contrasting with areas of unbroken colour. The design loosely subdivides each bay, into areas eventually



to be more clearly defined by a rather formal placing of furniture, long 3-4 seater settees, single seater chairs and smaller tables. Each bay contains three or four grouped units of furniture arranged in a way suggested by the planning of the design itself.
The settees and chairs will not be 'skirted' thus the pattern can flow underneath and around them and allows occasional variation in their arrangement. On the clear and light broken tones of the floor the upholstery will be of rich textured materials, in dark clean colours, set off by light wood framing to chairs and tables. Dark toned plastic table tops could pick up and intensify the lighter tones of the floor.

Sir Hugh Casson sums up

By his unemphatic delineation of the three 'rest' areas and the movement which flows through them, Humphrey Spender has done much to counter the captive feeling which waiting rooms so often inspire in even the most experienced travellers. In contrast, the purposeful directional pattern of the raised gangway provides a cheerful atmosphere of ordered haste. This will be most helpful in banishing the hesitancy of travellers who find themselves with much to do in a large and unfamiliar building.

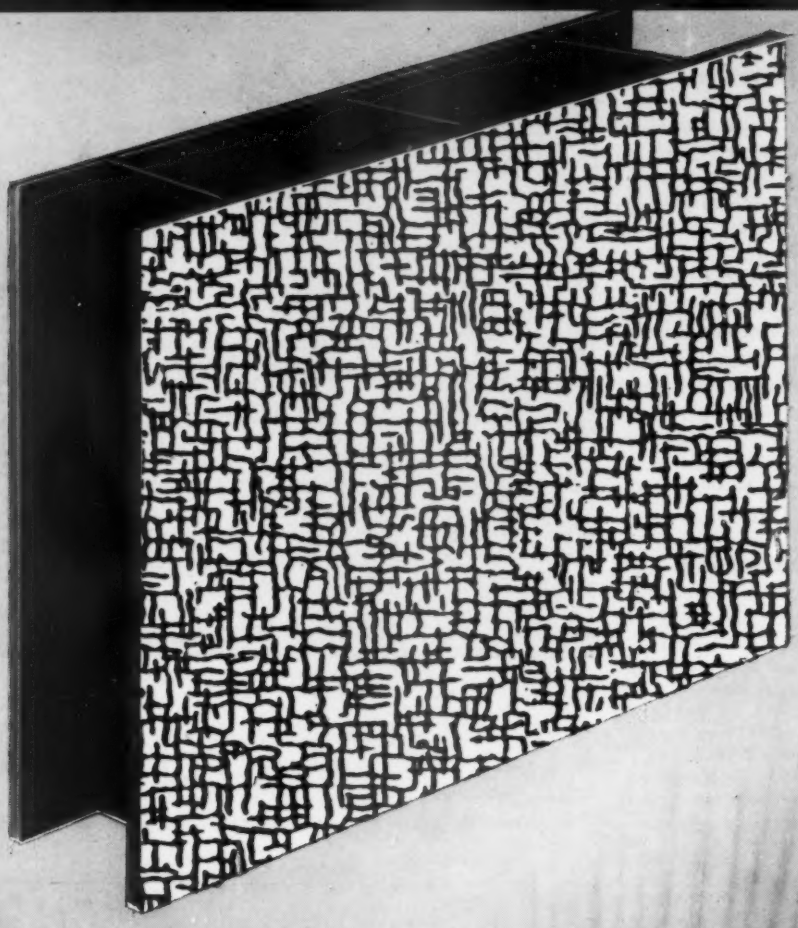


An impression of the Airport Waiting Lounge, for which the floor is designed.

Reprints of this series can be obtained from

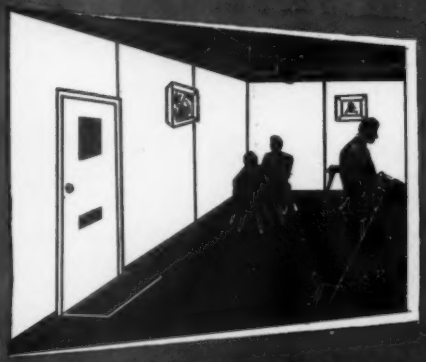
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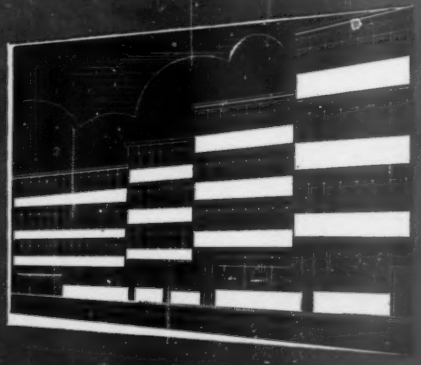




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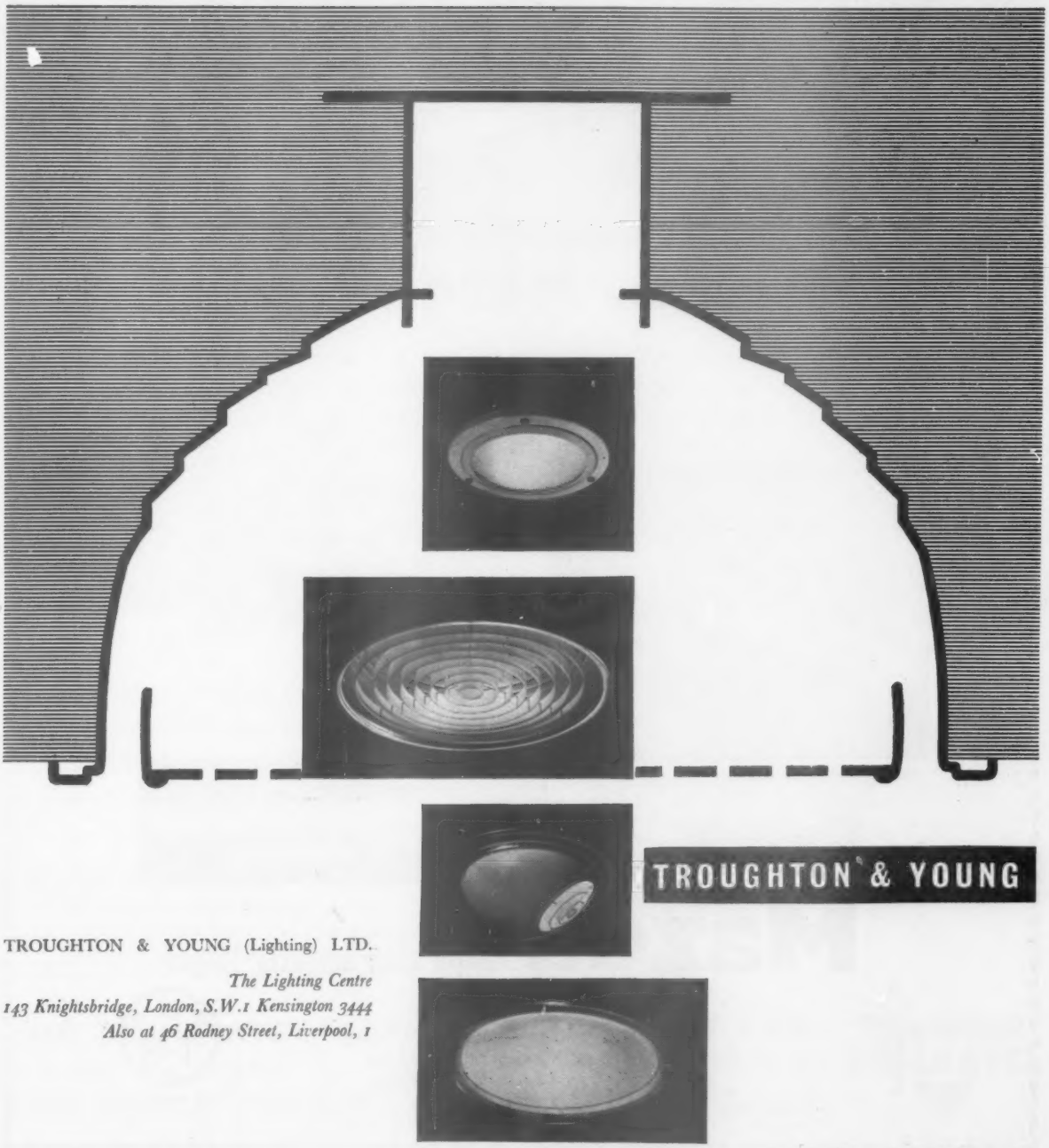
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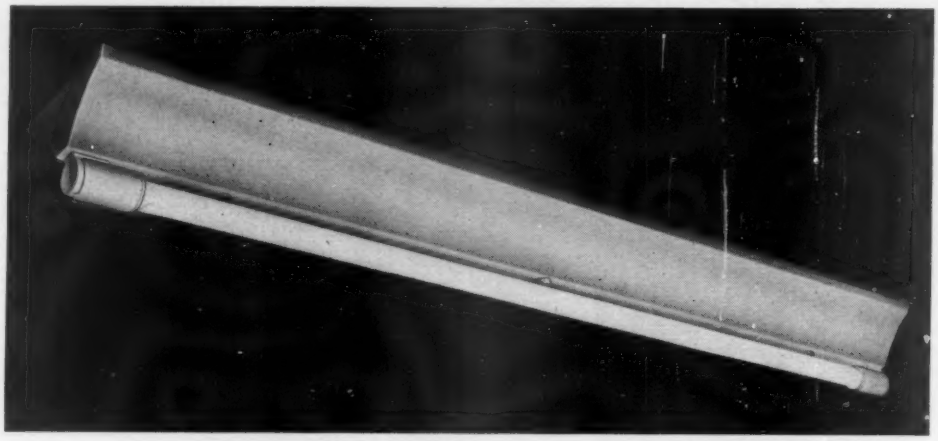


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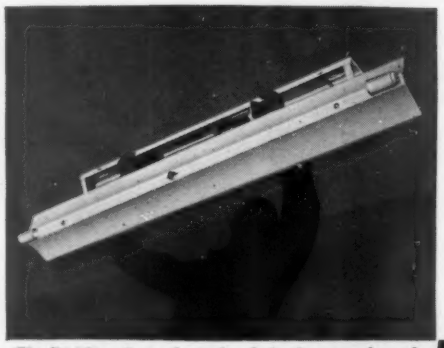
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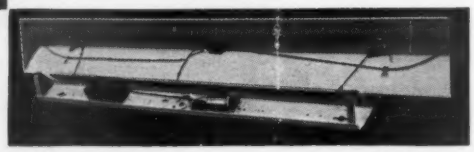
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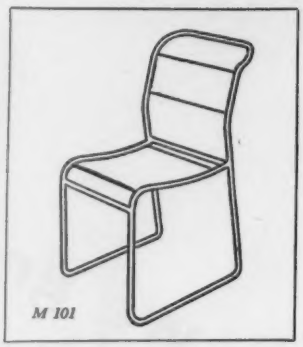
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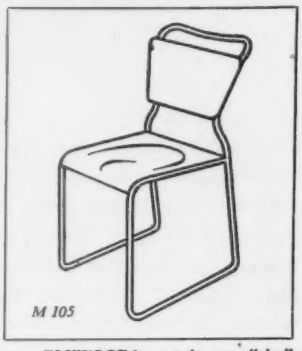


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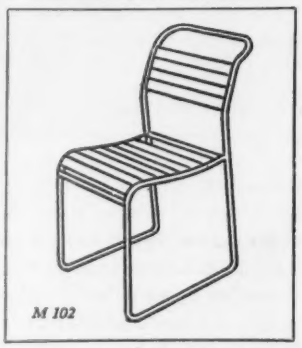
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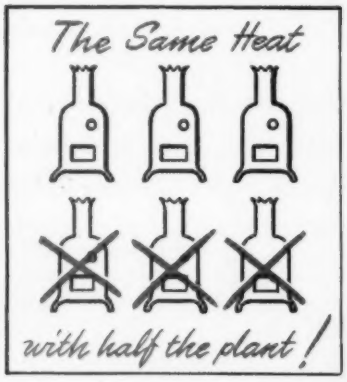


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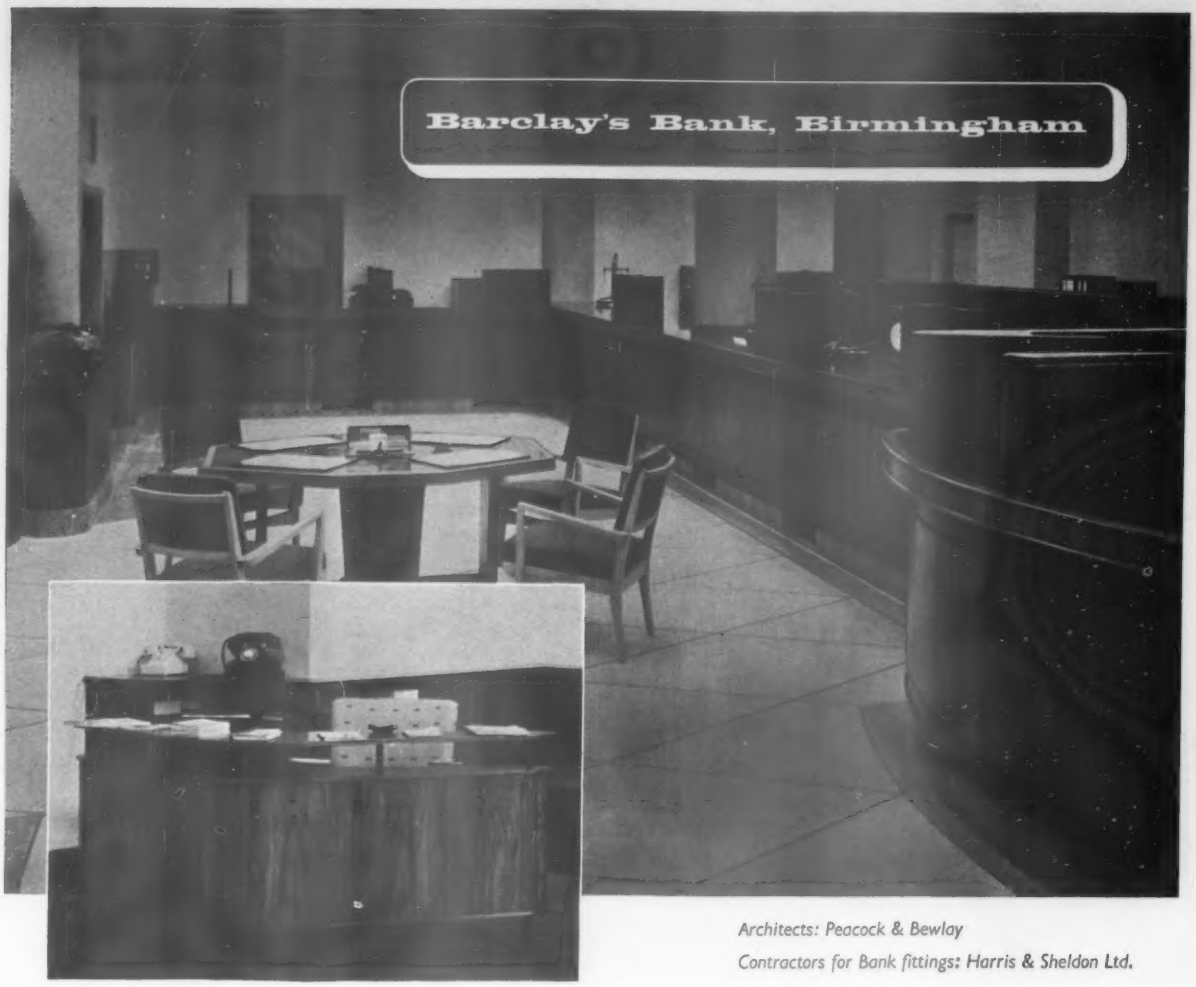
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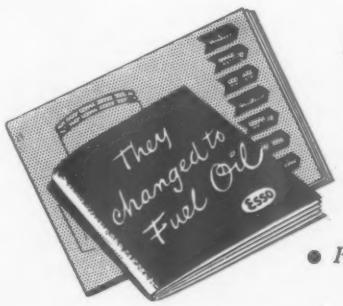


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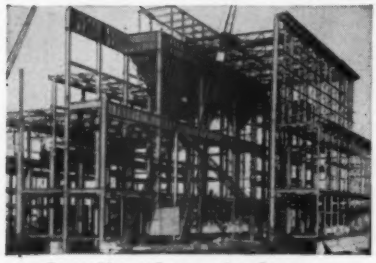
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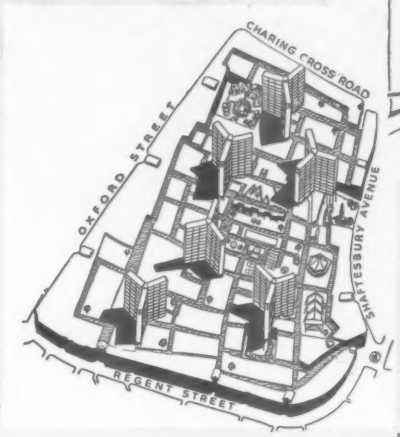
The whole of the existing area is shown as an air-conditioned shopping and office precinct. The ends of existing roads have been enclosed with glass and the whole area has been covered in by water gardens. The pattern of the existing streets has been maintained, but certain blocks have been cleared to form agreeable pedestrian squares. The human scale of Soho, as it now exists, is retained.



View of St. Anne's, Soho, seen from Shaftesbury Avenue. Certain buildings have been removed to disclose this view. At each corner the entrances to the precinct can be seen. The three open spaces in this scheme have not been excavated, so that tall trees may be retained.



General view of project.



This shows the central market, surrounded by shops, cafes, restaurants, and offices. The roof is formed by the glass underside of the bathing pool, which is shaped in the form of waves. (From below the bathers will appear like fish.)





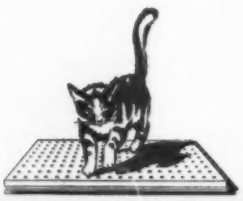
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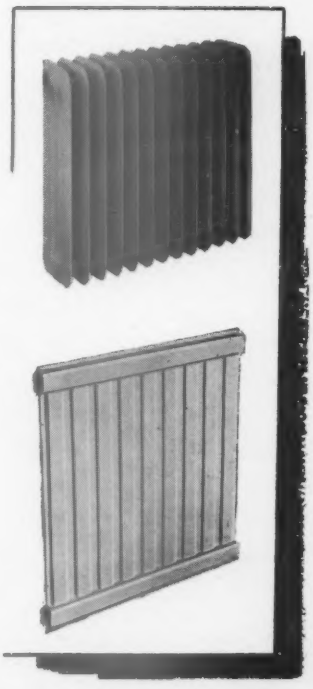
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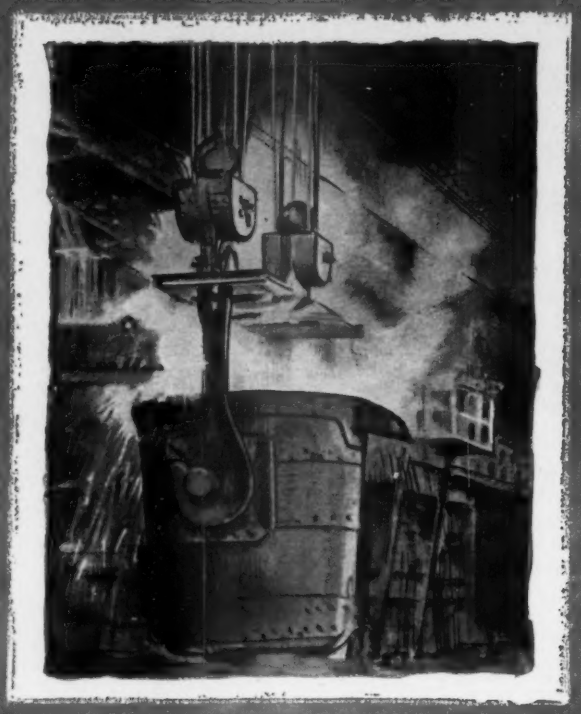
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MARGINALIA

Farewell to Gane's

The news of the closing down of Gane's is a shock which will be felt far beyond the bounds of Bristol, and the production of an illustrated booklet called *A Swan Sings*, commemorating the firm, only makes us feel the shock more painfully, in spite of the fact that the book (by Howard Wadman) repeats no doubt Mr. Geoffrey Gane's own words in saying that the step was taken 'calmly, deliberately, and in the best of spirits.' Mr. Gane is 76, he had been a leader in the early days of the DIA, he remained a leader when he asked Marcel Breuer to design the furniture of his own house and a little later, in 1936, an exhibition pavilion at the Royal West Show—the first piece of random rubble in the Modern Movement in England. Mr. Gane is genuinely pleased with the spreading of a better taste in furniture since the war, and if he decided to close down rather than to rebuild on an adequate scale after the loss of his showrooms and workshops in the war, his reason was that 'the big furniture factories have learnt a great deal about design, and their productions can satisfy all but the most exacting demands. The levelling of income and taste has made it virtually impossible to maintain the *highest* standard of quality, but the same process has raised the *general* standard to a remarkable extent.' The booklet also tells us much of Gane's social work inside and outside shop and workshop, and of prices, working conditions and humorous oddities of the Victorian decades. The illustrations are of pieces in the Jacobethan and the Louis tastes, and in the Voysey as well as the Mackintosh fashions (both 1903) before modern pieces are reached. The printing by the Shenval Press is excellent, and the 5s. which is charged to those who wish to buy it goes to the newly founded Gane Trust.

The National Trust

Among the factors which shape the English scene, the activities of the National Trust should not be overlooked. To most persons interested in architecture the Trust is simply a body which conserves old properties of æsthetic or historic value, but even this function involves it largely in farming and forestry, and in places which are often quite remote from the hillside and coastal areas where its purely landscape activities are mostly concentrated. The Trust's *Report* for 1953-4 reveals that it owns over 800 farms, so that it must now be one of the largest organizations ultimately responsible for the management of agricultural land in the country, and thus has a direct or indirect influence on the colour and texture of a great deal of rural scenery. But beside this particular kind of active interest in landscape, the Trust also adopts a positive attitude to other bodies which affect scenery, and the *Report* not only contains a note expressing concern at the inadequacies of the 1947 Town and Country Planning Act, and at the 'loading' of area planning committees by groups interested in the exploitation of the countryside, but also records the Trust's active intervention at the public enquiry on the South Orbital Road scheme on behalf of scenic beauties which are not even Trust property.

For the rest, the *Report* reveals a steady progress and expansion of conservation work, both in buildings and land, and impressive additions to its holdings in both categories, but its Finances grow, for reason's beyond the Trust's direct control, more confusing to the layman every year, since many bequests are earmarked for specific purposes, and where a property so endowed shows a profit the surplus cannot be put to the Trust's general account, though that account must make good any losses incurred by such properties. Relief of this situation would require delicate administrative action, at a higher level than the Trust itself, but all amateurs of architecture and landscape must hope that some such action will be forthcoming.

The British Council

The British Council's *Report* for the operational year 1953-4 is the first to appear since the Drogheda Committee made its enquiry into the Council's working and economy. The Council has to report what is, in fact, an heroic effort in the face of considerable difficulties—services maintained in spite of crippling cut-backs in allocation of funds and in spite of continuous and uninformed hostility on the part of certain sections of the press.

These achievements are acknowledged by the Drogheda Committee, and the Council expresses its gratitude for this, but it has also gone on record with its disquiet—which many persons will share—at some other aspects of the Committee's findings. Or, rather, with the assumptions on which these findings are based. It is clearly implied, for instance, that the Council's main function is to serve as a weapon in the Cold War, and therefore that its activities in western European Countries can be cut to the bone, since these areas are politically reliable. The effect of such action, which is already under way, is to leave Europe open for a straight fight between the Cominform and the Voice of America—a situation in which the forceful voicing of the British passion for compromise and toleration could be of salutary effect.

But the Drogheda Committee seem also to be quite unaware of the positive harm done to British standing by the process of letting Europe alone. The effect of the Council's inability to support strong British representation at the Milan *Triennale*, or the various conferences of the *Association Internationale des Critiques d'Art*, has been to cause damage to British prestige in these fields, while its inability to maintain a strong representation of British architecture and industrial design (at anything except trade fairs) is probably damaging our overseas trade as well as our cultural standing.

TCPA Journal

The official organ of the TCPA, currently known as *Town and Country Planning*, its third name, celebrated its jubilee in October last, having started in 1904 its fifty-year advocacy of the Howardian ideal of the good life at twelve houses to the acre. Quotations from early issues of the journal which appear in this issue give an illuminating picture of the atmosphere of transcendental sociology and sheer Anglo-Saxon eccentricity in which the Garden City movement first became conscious of itself—Ebenezer Howard expressing the belief that property-interests (like the ideal socialist state) would eventually wither away, and G. K. Chesterton suggesting that the modern city should be regarded as a joke, and London as a fad. Other quotations give one some idea of the solid organization and astute management which brought the Garden City ideal so close to fruition (though one suspects that there must still remain a fascinating secret history for some future historian to relate). And there is one quotation which suggests that in spite of recent polemics, *Town and Country Planning* secretly understands and delights in the true nature—the virtues and the vices—of city life. It is from Stephen Vincent Benet's *John Brown's Body*, is reprinted without any comment except the title 'Lyricism of Urbanity' and reads:

> Out of John Brown's sinews the tall Sky-scrapers grow
> Out of his heart the chanting buildings rise,
> Rivet and Girder, Motor and Dynamo,
> Pillar of smoke by day and fire by night,
> The steel-faced cities rising to the skies,
> The whole enormous and rotating cage
> Hung with hard jewels of electric light.

AIA at Mid-century

The American Institute of Architects, which has only two years to go before it puts its century up (founded in 1857) has indicated its concern at the state of architecture in the middle of the American Century by issuing two substantial volumes under the general title of *The Architect at Mid-Century*. These are the reports of the commission, under the chairmanship of Edwin S. Burdell, which has been investigating the state of the profession in USA, but they cover a rather different field from that which might have been expected. Volume One, under the editorship of Turpin Bannister, is somewhat misleadingly called *Evolution and Achievement*, since it deals only with the professional, rather than architectural, side of the architectural profession, and the great bulk of the book is concerned with the education and registration of architects rather than their products. The spectre which seems to haunt this aspect of American architecture is the Ecole des Beaux Arts, to which continual reference is made as cause, influence or example to various features of the profession.

The second volume *Conversations Across the Nation*, edited by Francis Bellamy, records 'ten private conversations among selected groups of highly intelligent Americans on the immediate future of our country, and the kind of professional education which that future calls on our educators to provide for our young men and women.' Such a manifestation of sympo-

siomania (the phrase 'sixty-four dollar question' appears in the first thirty lines of the preface) would seem to most people on this side of the Atlantic an embarrassing crystallization in black and white of opinions aired under conditions of rather high-flown conviviality, an all-too-willing submission to the tyranny of the tape recorder, but its mere existence throws an oblique light on the mentality of the profession in America, provided some social psychologist can interpret it for us.

Architects in this Issue



Architects of Champion Pub (see pages 135 to 140). John and Sylvia Reid. Born in 1925, both trained at the Polytechnic, Regent Street. He was commissioned in the Green Howards and served four years in West Africa and the Middle East. Started in private practice together in 1951. Their work includes private houses, office interiors for Davis, Belfield and Everest, museum cases (in collaboration with Robin Day) for British Transport Commission and furniture for the Stag Cabinet Co., Ltd. They are consultants to the Lighting Division of Thorn Electrical Industries Ltd., and were awarded a silver medal at the Xth Triennale, Milan, for a lighting fitting. Their hobbies are architecture and music.

CORRESPONDENCE

Tremadoc

To the Editors,
THE ARCHITECTURAL REVIEW

SIRS,—Some comment or publicity on the alterations made in Tremadoc Square, North Wales, is long overdue (see A.R. Nov. 1954).

I am very glad that Mr. Gordon Cullen questions the use of crazy paving on the pavement extensions. I can only suggest that it is a mental hangover from the twenties of this century, that such is suitably rustic or old fashioned enough to blend with the fine old buildings here.

I must point out, however, that Mr. Cullen might have given further and more rational criticism. We have needed this for three or four years and failed to get it. Most of the alterations made have been in the spirit of the crazy paving.

In the first place, ornamentation was the aim, then a plea for traffic safety was a necessity; essential economy and functionalism have been overlooked, which could have incorporated all desirable characteristics.

Yours, etc.,
Tremadoc. ISABEL STEINTHAL.

Hunstanton

To the Editors,
THE ARCHITECTURAL REVIEW

SIRS,—The services rendered by the ARCHITECTURAL REVIEW to the cause of architecture by publishing the photographs of the Hunstanton School (see A.R. Sept. 1954) are of greater importance than one at first realizes.

The inhuman brutality with which it strikes one is so violent that there is no doubt that it must have shaken even the most die-hard 'pseudo-modernist.'

As regards the comments that accompanied the illustrations they may be regarded either as a spasm of bigoted paroxism or the eloquence of a new type of dangerous eclecticism.

Yours, etc.,
Alexandria, Egypt. E. D. VASSILIADIS.

N.B.—I am a Greek architect at present working in Egypt. I have studied architecture in England and have come to love the warm, human quality of its architecture. I consider the Hunstanton School not only a bad piece of architecture but also utterly un-English.

Obelisk at Reading

To the Editors,
THE ARCHITECTURAL REVIEW

SIRS,—Many and various are the vicissitudes to which some of our smaller architectural gems have been subjected. Below is a particularly pernicious example—the fine Portland stone obelisk in the Market Place at Reading. This feature was given to the town by Mr. Edward Simeon in 1804, together with a trust of £1,000 in consols for its maintenance, and for a long period its three lamps played their part in illuminating the town.

When these lamps were superseded by modern lighting methods, the obelisk, instead of being accorded the courtesy due to an elegant piece of architecture, was treated with contempt. Hemmed



in by two public conveniences, a ventilating shaft, and a wooden shelter, and with its iron lamp-holders truncated, it now stands as a monument not to the generosity of Mr. Simeon, but to the lack of taste which prevails among some civic authorities.

Yours, etc.,
London. DOROTHY STROUD.

Coade Stone

To the Editors,
THE ARCHITECTURAL REVIEW

SIRS,—My attention has been drawn to a reference to the Geffrye Museum in an article by S. B. Hamilton on 'Coade Stone' in your November issue. Under an illustration of a Coade group cast for the Pelican Office in Lombard Street the writer states that this is 'now moved to the Geffrye Museum.'

In point of fact the group was moved here in 1934; it had been in a very bad state of repair for ten years or more, was repaired two years ago and has been covered from view since that time. It is feared that further damage might result from exposing the group and for some time an alternative site has been under consideration. The group is to be moved but at the moment of writing no decision has been reached regarding its ultimate home.

Yours, etc.,
London. M. HARRISON (Mrs.)
Curator.

Coade Stone

In the article on Coade Stone published in our November issue, illustrations 19 and 21 on page 300 were transposed; in fact the Bligh tomb is 19 and the Sealy tomb is 21. On page 297, second column, line 11, two sentences have been run together and should read:

'. . . an actual but later example with the proportions of height to breadth adjusted to suit a low-pitched pediment is shown in 20. His figures of a Charity School Boy and Girl, 9, are still to be seen above the doorways of schools of the period.'

On page 301, the Royal Society of Arts building was included among those in which Coade Stone had been used. In fact, the ornament on the rear elevation, though carried out in the style of the original building, is modern and not of Coade Stone.

Intelligence

A Gold Coast Society of Architects has recently been formed, one of their functions being to provide information on local conditions to architects proposing to go to the Gold Coast. Information may be obtained from the Acting Secretary, Arthur Lindsay, P.O. Box 1343, Accra.

ACKNOWLEDGMENTS

MARGINALIA, page 82: Ford Jenkins, Dorothy Stroud; FRONTIS, Sir Hugh Casson. FLATS IN HOLFORD SQUARE, pages 88-93: Nos. 1, 7, 8, 9, 10, 14, John Maltby; Nos 2, 11, 12, 13, John McCann; No. 15, Aerofilms Ltd. EMBODIMENTS, pages 94-99: The Mansell Collection (top right), Picture Post; Royal Geographical Society; Nigel Henderson; Galwey, Arphot; Building Digest; R. Hamilton—by courtesy of Prof. W. T. Astbury, University of Leeds. OFFICE EXTENSION IN MIDDLESEX, pages 100-107: Galwey, Arphot; No. 13, Briggs. ENGLISH ORIGINS OF ART NOUVEAU, pages 108-116: Nos. 11, 16, 17, 22, Tate Gallery; No. 12, National Gallery. CURRENT ARCHITECTURE, pages 117-120: Dept. Store & Office Block, Coventry: Galwey, Arphot. Offices in Lambeth: Galwey, Arphot. ISRAEL SCRAPBOOK, pages 121-128: Nos. 1, 2, 16, 26, 27, 33, 35, 36, State of Israel, Govt. Press Division; Nos. 7, 11, 12, 17, 18, 19, 20, 21, 22, 23, 28, 38, 39, I. Kalter; Nos. 24, 25, Prior. MISCELLANY, pages 129-134: New Buildings in Cambridge: Nos. 1, 3, 4, 5, A. C. Barrington Brown; No. 2, J. M. Richards. Exhibitions: No. 1, Royal Academy of Arts; No. 2, Galerie Louise Leiris; Nos. 3, 5, John Underwood (Copyright The Arts Council); No. 6, Toomey, Arphot. Farm Boundaries: No. 2, Picture Post; Nos. 3, 4, K. G. Browne, Arphot; No. 8, McCallum, Arphot. SKILL, pages 135-148: "The Champion" Pub in Wells Street, W.1: Nos. 3, 4, 10, 13, 16, John R. Pantlin—remainder Galwey, Arphot. Translucent Corrugated Sheeting: Miles & Kaye Ltd.

Office Extension in Middlesex

The blocks for the colour half-tones on pages 102 and 103 were made available by the courtesy of Messrs. Technicolor.

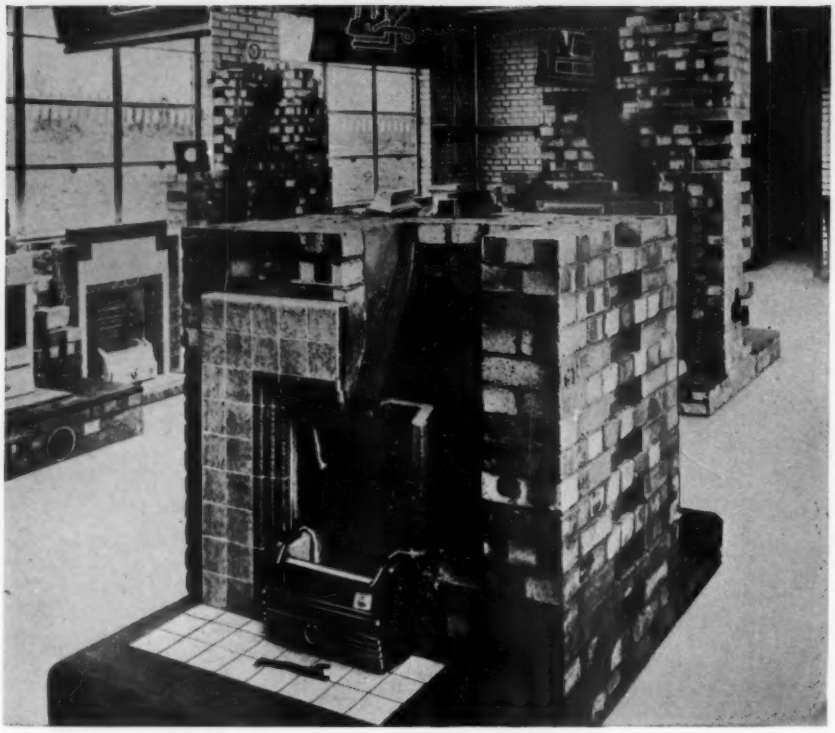


"Stratford"—deep textured upholstery and curtain fabric as shown at the Triennale Exhibition in Milan by Tibor Reich, in deep Midnight Purple. Woven by Tibor Ltd., Stratford-on-Avon. The "Arran" chair designed by R. E. Long is upholstered in Tibor's three-tone Green "Argyle" check contrasted with "Stratford" texture. Manufactured by R. S. Stevens Ltd., Walthamstow, London. "Cheetah"—two-tone Black/Forest Wilton Banbury carpet manufactured by I. and C. Steele and Co. of Bloxham, Banbury; design, Tibor Reich, F.S.I.A.

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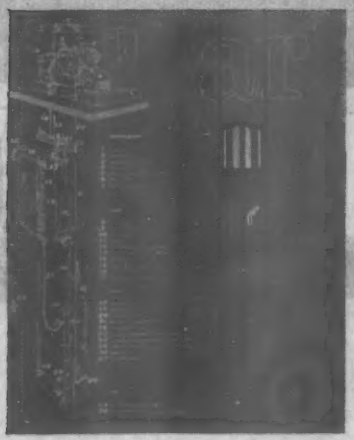
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THE ARCHITECTURAL REVIEW

Volume 117 *Number 698* *Feb 1955*



This month's cover contrasts the old and the new in passenger lifts: the old represented by a deceptively simple illustration of an aero-hydraulic installation from an early catalogue of the Roux-Combaluzier company, who installed the lifts of the Eiffel Tower; the new by a drawing by Bryan Spearpoint, whose work regularly appears in SKILL, of a contemporary Marryat-Scott lift in all its necessary complexity. A feature on lifts and elevators appears in SKILL, on pp. 140-146, but the contemplative reader will find a certain relevance also to the article *Embodiments* by D. E. Harding on pp. 94-99, which considers the evolution of buildings as organisms.

81 **Marginalia**

82 **Correspondence**

84 **Frontispiece**

85 **The Walled Eye** *by Hugh Casson*
Peking is a planned city, set down without visible topographical excuses, in the middle of a plain. But since it was founded as a temple-city, its site was decided by ritual considerations, and now that it is a metropolis it has its own destiny irrespective of topography. But its great fame is as a work of art—immediately comprehensible at a glance. Within a square grid of boulevards, low houses and courtyard trees, rise the temples and the palaces, and the two artificial mounds of the Imperial City, the only strong accents on a level skyline which has remained unchanged for centuries. Within the Forbidden City itself this sense of unchanged permanence is even stronger, but so worked upon by pictorial and poetic sensibility that the result is one of the wonders of the world. Through successions of courts and terraces, halls and pavilions, subtle changes of scale and emphasis, level and axis, give life to a scene in which every column and roof is the same. In the gardens this poetic and pictorial sensibility reveals itself in the Chinese passion for natural and fantastic forms—contorted trees and curious rocks, which have become almost symbolic of the remoteness and strangeness of Chinese culture in Western eyes. When there is added to this the inevitable unfamiliarity of everything behind the Iron Curtain, then the Orient has become mysterious once more. Yet, however bizarre and fantastic the scene, Peking's architecture with its peculiar balance of magic and mathematics can be trusted to steady the eye and balance the mind.

88 **Flats in Holford Square, Finsbury:** *Architects, Skinner, Bailey and Lubetkin*

94 **Embodiments** *by D. E. Harding* A house is not a machine for living in, but an organism for living through—this is the theme of Mr. Harding's attempt to re-examine the relationship between man and architecture. Bodily speaking, the human race has failed to develop any functional specializations, and man is therefore incapable of realizing his more specialized ambitions without making use of some adaptive appliance or other to extend his person. The artefacts with which he extends himself are often less replaceable than organs of his body—he has more reason to fear the loss of a few slates than a few hairs, roof-nails than toe-nails. Language bears out this animated view of architecture and speaks of the house as if it were a living organism. From this is developed the concept of the total organism of man—the human being and all his ancillary equipment which he uses and renders part of himself. In developing and refining this equipment man telescopes the evolutionary process which has produced his inner organism, —architecture is biology up to date. Architecture viewed thus, as an extension of the client's person and personality, calls for an overhaul of many of our basic methods of design, particularly of design for the unspecific mass client, for architecture is one of the important ways in which men vary.

100 **Office Extension in Middlesex:** *Architects, Gooday and Noble*

108 **The English Origins of Art Nouveau** *by Robert Schmutzler* The impact of Aubrey Beardsley on Continental Art Nouveau is generally recognised as an historical fact, but it produced results which suggest a throw-back to an earlier generation of English artists. Thus there appears in the German magazine *Pan* in the nineties a type of feminine beauty which can be traced back to the earliest works of Rossetti. It is from instances such as this that Herr Schmutzler develops his investigation and is able to show a far longer history and prehistory than has generally been accepted. The vital years immediately before the appearance of the style on the Continent are shown to be marked by highly prophetic activities in the circle of Mackmurdo and the Century Guild, who anticipated the characteristic forms by nearly a decade. The work of Rossetti and Whistler is also seen to be full of anticipations of Art Nouveau decoration, and the trail leading back on this side, as well as that through the Arts and Crafts, eventually runs back to Christopher Dresser, Owen Jones, the sponsors of the Great Exhibition and the Art-school reformers of the mid-century. Indeed Jones had written, as early as 1846, of creating a new decorative style independent of architecture, and his studies in ornament had laid the foundations of that flat, linear and vegetable style which was eventually to spring up in the last decade of the century.

117 **Current Architecture**

121 **Israel Scrapbook** *by S. Gilead-Gromet* The peculiar conditions of Israel—a new state with a growing population whose demand for immediate accommodation was matched by the absence of any building traditions, high costs and limited resources, wide differences of climate and social structure—have combined to give its architecture a unique local flavour, unlike that of other countries where the International Modern style has had to adapt itself to a highly specialised environment. In this survey Mr. Gilead-Gromet, an architect practising in Israel, discusses and illustrates significant recent developments in urban and rural buildings.

Miscellany

129 **Books**

130 **Criticism**

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Skill

135 **Interiors: 'The Champion' Public House in Wells St., W.1:** *Architects, John and Sylvia Reid*

140 **Techniques: Lifts** *by John Voelcker*

148 **Contractors, etc.**

The Authors *D. E. Harding*, of Sandon & Harding, was trained at University College, London, has worked for eight years in India and at present is in private practice in Suffolk, his native county. Has been a student of philosophy and kindred subjects for many years, and has contributed articles to *Theology* and other journals. In 1939 he published a novel. His contribution in this issue is based on part of his recently published book *The Hierarchy of Heaven and Earth*. *Robert Schmutzler*, born 1921. Educated at home and later in the Askanisches Gymnasium, because it was one of the few schools in Berlin where after 1933 Greek was taught. Holiday journeys to France, Denmark and Switzerland. War service in Southern Russia and later in Western Germany. Studied first Greek archaeology and then history of art at Tubingen, several times interrupted by the necessity of earning money. So impressed with the beauties of England that he returned in 1952 for almost a year to collect material for his thesis on William Blake and the English origins of Art Nouveau. During this time, he says, the most fascinating sights in London were Bedford Square, and the blue Persian cats sitting in graceful attitudes on the front-door-steps of the cream-coloured houses of Belgravia. *S. M. Gilead-Gromet* was born in Poland in 1922, and went to Israel in 1933, where he studied architecture at the Hebrew Technical Institute in Haifa and graduated in 1945. Worked as assistant in various offices, and joined the *Hamechandes* co-operative of architects and planners who specialise in work on rural settlements, community centres and public buildings. A philatelist and visiting instructor at the Haifa Institute where he studied, he has gained first prizes in three important competitions—for old people's housing in Haifa; for the municipal theatre in Tel Aviv; and for the cultural centre in the Hadar Hacarmel quarter of Haifa—as a result of which he is now working on the theatre there.

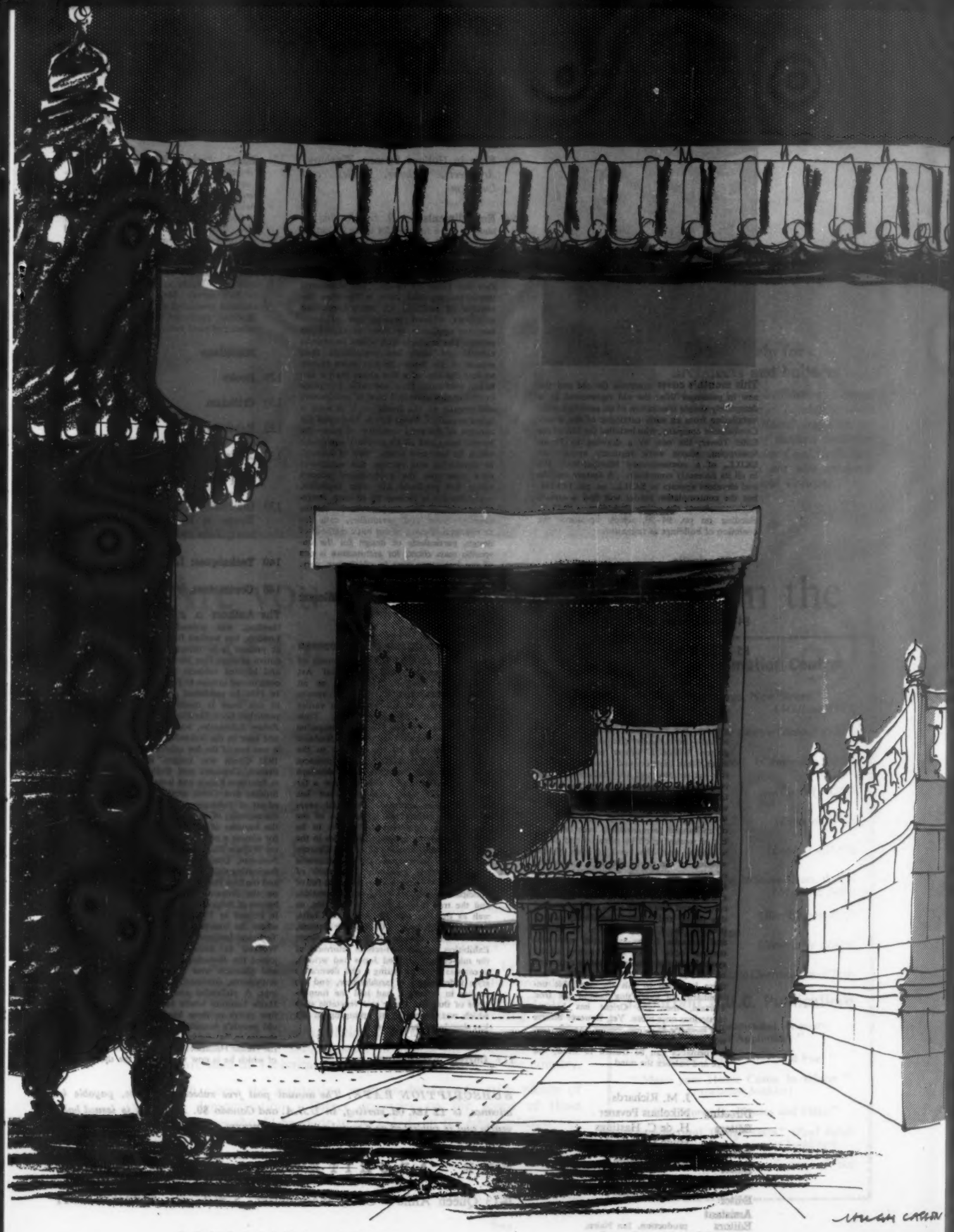
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FIVE SHILLINGS



The red and gold sequence of ordered, but diversified, spaces through which the visitor moves in the Forbidden City of Peking, are considered by Sir Hugh Casson, who made the sketch opposite and wrote the article below, to be one of the outstanding impressions of his recent visit to China, for they exemplify, in a particularly striking way, the manner in which a rigid and ritualistic mathematical order is given life by poetic and pictorial imagination—observe here the startling effect of the grossly over-scale vase, and the subtle change of emphasis given by the flight of steps which lifts the all-too-regular paved walk into a pavilion which lies mostly off the visual axis of the scene.

休卡遜先生

THE WALLED EYE

SIR HUGH CASSON VISITS PEKING

Peking is a planned city. Pay it the compliment then, if you can, of arriving by air. For it is a place to be seen first from above—a box, as it were, with the lid off.

There it sits, flat, four square, ruled and patterned, grey-roofed and golden tiled, bang in the middle of a sepia landscape, as self-assured and inexplicable as a dog biscuit on a beach. Why is it there and not somewhere else? There seems to be no river ford, no harbour, no mountain pass to justify the choice of site.

But of course to ask such a question is a sign of western obtuseness. Only a barbarian would forget that Peking is not so much a city as a temple. It is the home of the Son of Heaven, and as such it has been placed and planned by magic and ritual rather than by common sense or the demands of trade.

Yet once on the ground and within the safety of those great mudbaked walls built to shut out the bandits, the mountain winds, the rhythmic drudgery of peasant life, Peking becomes more than a city, more even than a temple. It becomes a metropolis—a place that has its own laws, character, history and destiny. Although of course it can supply everything, from coffins to fried fish-lips, that any one of its three million citizens may need at any hour of the day or night, Peking does not live by trade alone. A true metropolis, it is concerned with things of the mind. It is the home of learning and entertainment. It is international. Like a great exhibition it is full of crowds, music, clamour, wealth, squalor, bustle and glare.

City, temple, metropolis, Peking is all of these, but to the world it is famous most of all as a work of art. There are perhaps more beautiful cities in the world, but few surely more immediately comprehensible at a glance. Climb the forty feet to the ramparts of the Tartar city wall, and look north-wards. Behind you stretches the countryside, its flat fields peppered with disused temples, and half-ruined tombs, with smoking factory chimneys, and busy building sites—a landscape being visibly transformed and in which the white noodles hung up in the sun fly like flags of surrender.

Before you, in contrast, lies a city that, like the civilization it serves, seems at first glance to have remained stationary for centuries—a city of low grey houses, seamed by tiny alleys, and geometrically dissected by great boulevards laid out by Kubla Khan. The houses—Rasmussen calls them 'petrified tents'—are built round miniature courtyards each of which contains a tree, so that in summer the eye commands a giant walled garden five miles across. Above this green and leafy sea ride the palaces and temples of the Imperial and Forbidden Cities—'the greatest palace that ever was' wrote Marco Polo—golden roofed, emerald-eaved, scarlet walled, their royal height unchallenged by the homes of citizens. Above these again, but still within the Imperial City, rise two artificial mounds, one decked with pavilions, the other crowned with a white whisky-bottle shaped pagoda. A haze of charcoal smoke hangs over the scene and through it drifts the city's noise—clamorous and bewildering—bells, gongs, horns, drums, shouts, rattles, and snatches of music.

All seems to be as it was—as we have heard tell. Descend again into the streets and the impression of being in another century as well as in another land remains. The great boulevards—once reserved for Imperial use only—are flanked by sidewalks still kept broad enough not only to walk upon but to act as open-air workshops and bazaars—places where a man can get a mule shod, a chair mended or just a quick haircut. The smaller streets in the centre areas, single-storeyed or faced with phoney fronts like Main Street in a Western film, are lined with shops that still sell at the front what is made at the back, and the noise of manufacture—hammering, sawing, tin-beating—competes with the clamour of the crowds. And in the narrowest streets of all, the blind walls of which are so close that it is sometimes possible almost to touch both of them with outstretched arms, the traditional cries of the street vendors—the knife-sharpener, the toy-seller, the palmist—are still to be heard.

Everywhere are the traditional colours of the past—the grey of buildings, the blue of the people's clothes, the occasional flash of scarlet from a flag or scarf. Above the head and against the china-blue sky the thin black scribble of the wires weave a mad cat's-cradle over the roofs of the city. Yet neither this wirescape, nor the trams and the Cadillacs, not even the Croydonesque silhouettes of the few recent public buildings, can destroy this feeling of being in a place unchanged.

Within the walls of the Forbidden City this feeling of antiquity becomes almost overpowering in effect. It is true that, however ancient they may look, many of the buildings are in fact not very old. The Chinese seem to care little for permanence in architecture—why incidentally, one wonders, in a country almost without timber do they build so consistently in wood?—and there is scarcely a pavilion or a temple to be seen that has not been remodelled, restored or even rebuilt, perhaps several times during its life. The escorting guide may describe a building as being fourteenth century when in fact it was completely rebuilt after a fire in 1900. Yet the information is not so misleading as you might suppose, for both planning and detail are governed not by fashion nor by period but by ritual, and are thus easily reproduced. Every stone, every column, every brick is placed according to the convictions of a culture. So rigid are these rules that a student asked to measure up a group of temples in a distant province need only discover the dimensions of one column and take a few photographs, and from these he can supply the rest. And yet the effect of such standardization is not sterile, boring nor repellent, for upon this rigid geometrical skeleton of courtyard and stair, of bridge and temple has everywhere been grafted the imagination of the poet and the painter. It is this combination of mathematics and magic that makes Peking one of the wonders of the world.

There can be few more visually exciting experiences than to wander through the courts of this walled series of cities as through the rooms of some vast roofless mansion. First the great approach, paved and straight, that even within living memory was lined every day at dawn by kneeling elephants who guarded the approach of Court officials and mandarins.* Then through the Great Gateway with the courtyards set about with halls of state designed for splendid ceremonials. Each hall is surrounded with smaller halls and pavilions, with terraces, bridges, staircases and ramps all in marching, rhythmic perspective. Every column, every roof, every silhouette and every colour is the same—yet all are different because each time they are viewed from a slightly different aspect or different level. Courts give way to temples, to stairways, to courts again. Everywhere roofs are golden, ceilings blue, green and gold, walls and columns blood-red. The floors inside and out are carefully paved, great marble slabs, diagonally tooled along the main pathways—elsewhere grey rectangular bricks or stones. Balustrades are of white marble, richly carved. Bronze vessels as high as your hat stand sentinel beneath trees every branch of which has been studied and, if necessary, twisted in growth to create the required effect. Within the State rooms

* Sir Osbert Sitwell records that these elephants were accorded princely rank and similar remuneration.

are set out the furniture, the silks, the bronzes and porcelains that once belonged to the Imperial Court—some beautiful, some strangely hideous—carved monkeys made out of what looks like chocolate spaghetti; cranes in coloured cloisonné; clocks let into the bellies of marble elephants. Owing to the risk of fire no buildings are fitted with electric lighting, and in the scarlet twilight of these great halls the atmosphere is sinister and smells of tyranny.

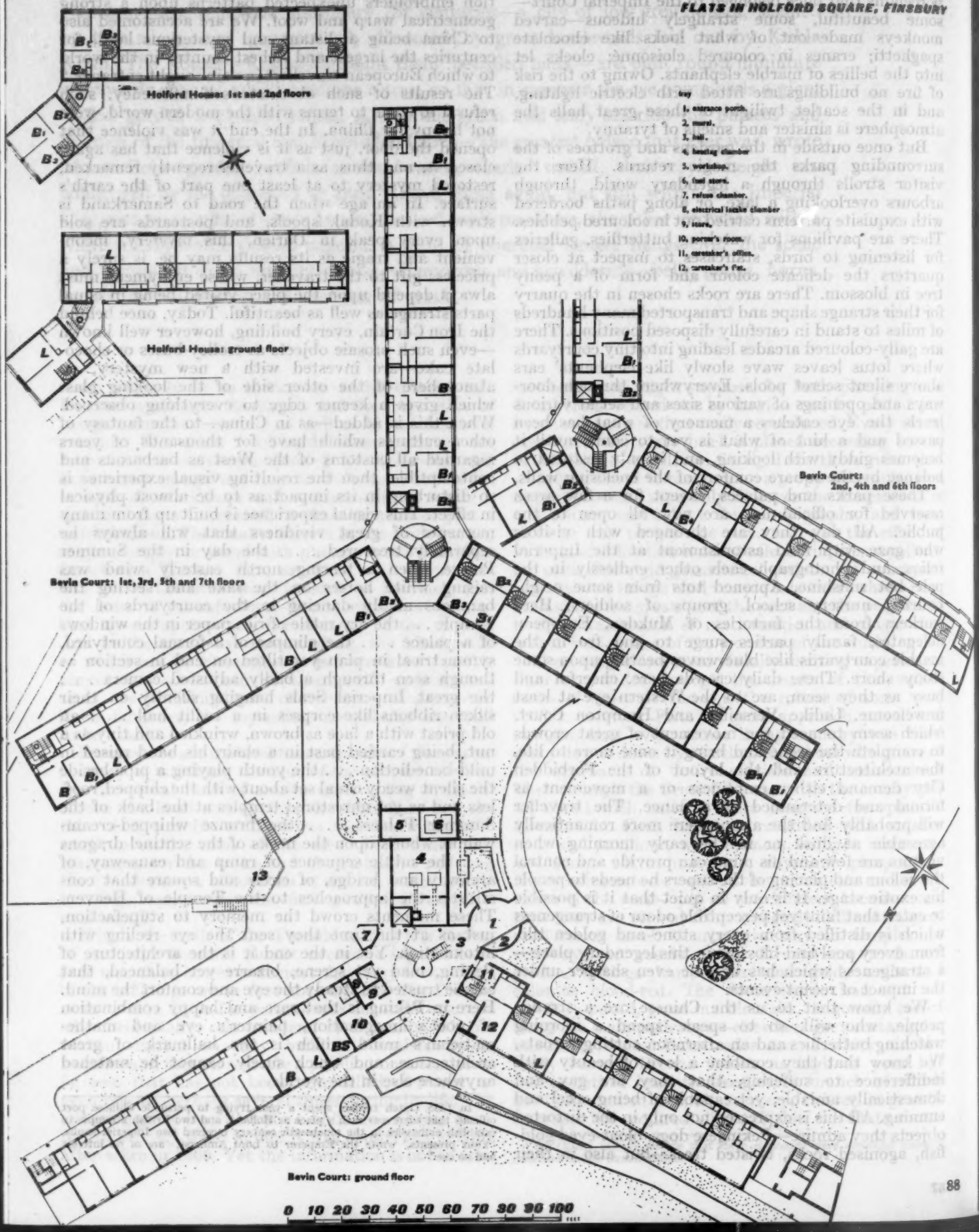
But once outside in the gardens and grottoes of the surrounding parks the magic returns. Here the visitor strolls through a legendary world, through arbours overlooking a lake, or along paths bordered with exquisite patterns carried out in coloured pebbles. There are pavilions for watching butterflies, galleries for listening to birds, staircases to inspect at closer quarters the delicate colour and form of a peony tree in blossom. There are rocks chosen in the quarry for their strange shape and transported many hundreds of miles to stand in carefully disposed positions. There are gaily-coloured arcades leading into tiny courtyards where lotus leaves wave slowly like elephants' ears above silent secret pools. Everywhere through doorways and openings of various sizes and set at various levels the eye catches a memory of what has been passed and a hint of what is yet to come, until it becomes giddy with looking, and is only restored to balance by the square comfort of the enclosing walls.

These parks and palaces, except for a few areas reserved for official use, are now all open to the public. All day they are thronged with visitors who gaze with mild astonishment at the Imperial relics, and photograph each other endlessly in the pale hot sunshine. Aproned tots from some neighbouring nursery school, groups of soldiers, Hero workers from the factories of Mukden, European delegates, family parties surge to and fro in the marble courtyards like blue waves beating upon some stony shore. These daily crowds here, cheerful and busy as they seem, are to the Western eye at least unwelcome. Unlike Versailles and Hampton Court, which seem to need the movement of great crowds to complete the scene and bring it once more to life, the architecture and the layout of the Forbidden City demand either emptiness or a movement as formal and determined as a dance. The traveller will probably find the atmosphere more romantically agreeable at dusk or in the early morning when visitors are few and his mind can provide and control the colour and placing of the supers he needs to people his exotic stage. It is only in quiet that it is possible to catch that faint yet perceptible odour of strangeness which is distilled from every stone and golden tile, from every pool and blossom in this legendary place—a strangeness which has become even sharper under the impact of recent events.

We know that to us the Chinese are a strange people, who will, so to speak, spend a morning watching butterflies and an afternoon cutting throats. We know that they combine a love of beauty with indifference to suffering, that they are gay and domestically amiable, yet capable of being cruel and cunning. All this is expressed not only in the distorted objects they admire—Pekingese dogs, bloat-eyed goldfish, agonised rocks, twisted trees—but also in their architecture and townscape, where a poet's imagination embroiders unexpected patterns upon a strong geometrical warp and woof. We are accustomed also to China being a distant and mysterious land, for centuries the largest and richest country in the world to which European travellers in vain sought entrance.* The results of such obstinate self-sufficiency, such refusal to come to terms with the modern world, were not happy for China. In the end it was violence that opened the door, just as it is violence that has again closed it, and thus, as a traveller recently remarked, restored mystery to at least one part of the earth's surface. In an age when the road to Samarkand is strewn with Kodak spools, and postcards are sold upon every peak in Darien, this mystery, inconvenient and tragic as its results may be, is surely a priceless gift to the traveller, whose enjoyment must always depend upon the place visited being in equal parts strange as well as beautiful. Today, once behind the Iron Curtain, every building, however well known—even such prosaic objects as trolley-buses or chocolate cake—are invested with a new mystery, an atmosphere of the other side of the looking glass which gives a keener edge to everything observed. When this is added—as in China—to the fantasy of other cultures which have for thousands of years regarded all customs of the West as barbarous and contemptible, then the resulting visual experience is so disturbing in its impact as to be almost physical in effect. This visual experience is built up from many moments of great vividness that will always be separately treasured . . . the day in the Summer Palace when a tearing north easterly wind was raising white horses on the lake and setting the bamboos madly dancing in the courtyards of the Temple . . . the dry rattle of rice paper in the windows of a palace . . . the glimpse of a formal courtyard, symmetrical in plan yet tilted on end in section as though seen through a badly adjusted camera . . . the great Imperial Seals hanging silently on their silken ribbons like corpses in a twilit hall . . . an old priest with a face as brown, wrinkled and tiny as a nut, being carried past in a chair, his hand raised in mild benediction . . . the youth playing a pipe beside the silent weedy canal set about with the chipped, roofless and as yet unrestored temples at the back of the Summer Palace . . . the bronze whipped-cream-walnut whorls upon the necks of the sentinel dragons . . . the subtle sequence of ramp and causeway, of archway and bridge, of circle and square that constitutes the approaches to the Temple of Heaven. These moments crowd the memory to stupefaction, just as at the time they sent the eye reeling with intoxication. Yet in the end it is the architecture of Peking, mad yet serene, bizarre yet balanced, that can be trusted to steady the eye and comfort the mind. Here in Peking is that rare and happy combination of poet's imagination, painter's eye and mathematician's mind which is the hallmark of great architecture, and which surely cannot be matched anywhere else in the world.

* In 1655 Dutch traders spent a year trying to persuade Chinese port officials that there *was* such a place as Holland, and two British attempts to establish embassies in the nineteenth century received two Imperial snubs. 'Your presents,' wrote the Emperor to Lord Amherst, 'are of no interest and no use.'

FLATS IN HOLFORD SQUARE, FINSBURY



FLATS IN HOLFORD SQUARE FINSBURY

ARCHITECTS	**SKINNER, BAILEY AND LUBETKIN**
Associate	**A. GREEN**

1, east and south elevations of Bevin Court, the main 7-8 storey Y-plan block.



Under the London Squares Preservation Act the area of these open spaces must either be preserved or an equivalent area must be provided in a suitable alternative position. In this case the decision to build one main block concentrated in three wings round a central stair and lift hall made it impossible to retain the old rectangular green space in the middle of Holford Square, but an equivalent area has been provided on the west side of the site adjoining the grounds of an LCC school*. This new public open space will have its main approach from Percy Circus and will be designed to form a

* An account of the first project for this site was given in the ARCHITECTURAL REVIEW for June, 1952 (pp. 403-406). It was there explained how the original intention was to preserve the open space of the old Holford Square intact, but how rising building costs combined with the necessity of maintaining rents at a low level eventually led to a much more concentrated and economical solution in the form of the present big Y-block.



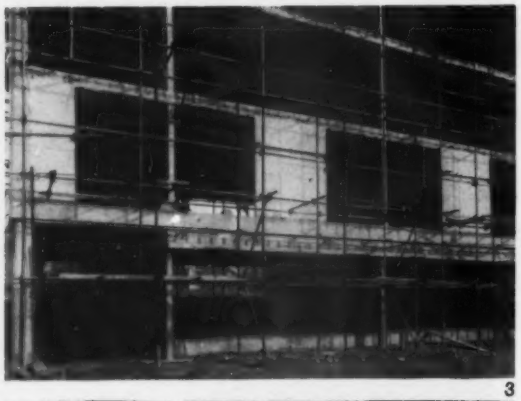
2, mural painting by Peter Yates in the entrance porch of Bevin Court ; it incorporates elements from the coat of arms of the Finsbury Council, 3, 4 and 5, stages in the erection of the pre-cast concrete facing slabs. 5, one of the slabs, showing the surface of Hopton Wood stone chippings, 4, some of the slabs seen from the back, during erection ; they were used as permanent shuttering. 3, one of the wings of Bevin Court under construction showing the reinforced concrete cross-walls and slabs and some of the facing slabs in position.

2

FLATS IN HOLFORD SQUARE FINSBURY

continuous ensemble with the housing estate. The total area of the site, including the public open space, is 3.9 acres ; without the open space it is 3.22 acres and the density is 129 persons per acre.

The main 7-8-storey block (Bevin Court) contains 118 dwellings and the small 4-storey block (Holford House) 12 dwellings. In the east and west wings of Bevin Court there are 1, 2 and 3-room flats, with all the living rooms and bedrooms facing towards the south, and only kitchens and bathrooms facing on to the galleries on the north side. In the south wing, which has the advantage of both east and west aspects, there are maisonettes served by galleries on alternate floors, with bedrooms facing in both directions on the floors between. Again, only kitchens and w.c.s face on to the access galleries. The 4-storey block, Holford House, consists entirely of maisonettes. The basic shape of the Y-block is clear and provides its own interest. The main elevational problem was how to avoid monotony and bleakness in elevations which, for economic reasons, are devoid of any relief in the form of balconies or other projections and recesses. The grouping of the windows to form a lively rhythm over the whole façade substitutes linear interest for the more desirable treatment in depth, enhanced by the contrast in materials and colour. The deep recesses of the staircase hall, linked to the two elevations on the west side by recessed balconies, give punctuation to this long façade. On the east elevation of the south wing there was a special problem—how to avoid an abrupt discord between the horizontal access galleries on alternate floors and the all-over character of the rest of the elevations. A horizontal treatment of the galleries would have disrupted the monolithic effect of the Y-block, and was overcome by introducing slightly projecting bays in the access galleries which continue the rhythm of the elevations. On the north elevation, consisting entirely of access galleries, the strings and mullions repeat exactly the same rhythm as on the other



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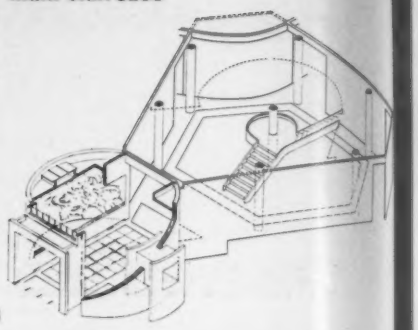


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main staircase

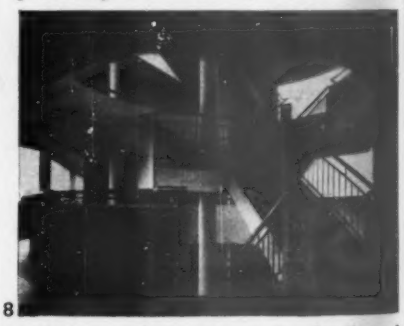


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6, diagram of the hall and the entrance porch, showing the method of lighting and protecting the mural. 7, the foot of the staircase, and 8, one of the landings. 9 shows the way the staircase works. 10, on the facing page, looking up the well.



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11, east and south elevations of Bevin Court. 12, general view showing the south-west and west elevations of Bevin Court and the west elevation of Holford House. 13, north and north-east elevations of Bevin Court. 14, site plan.

elevations. On the west elevations importance was attached to the differentiation of the ground and top floors. The former was achieved by means of recesses above and below the ground-floor window band and by open bays at the end of each wing; the latter by the introduction of additional horizontal members below the top-floor windows.

The reinforced concrete crosswall system of construction has the advantage of solving the problem of containing columns within partition walls and treating them in an orderly, architectural manner by abolishing all projections. Although a number of blocks of flats had already been economically built using the crosswall system, it was felt to be desir-



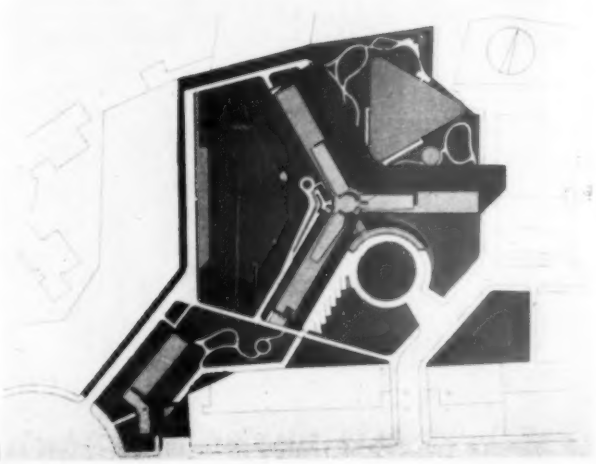
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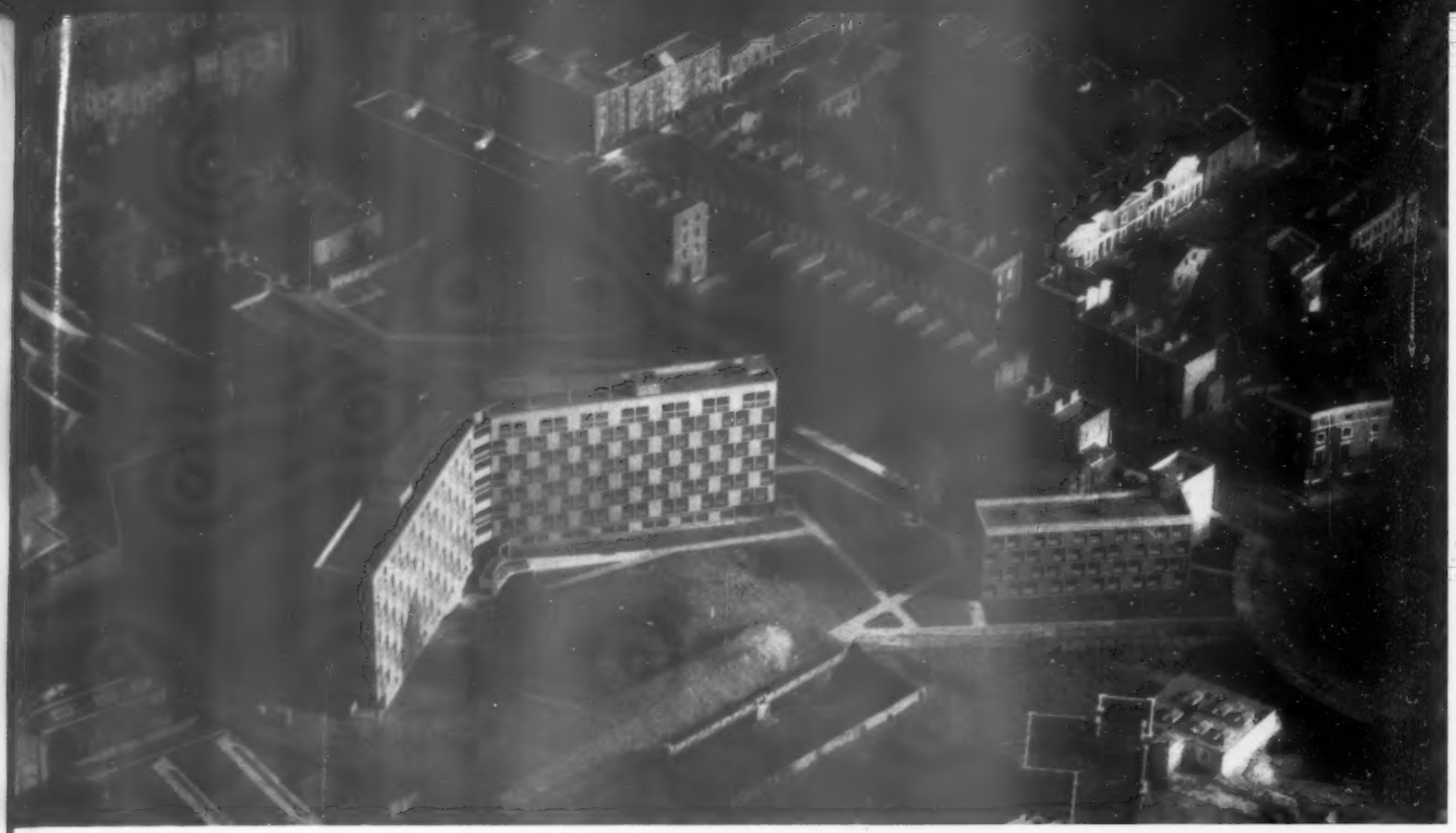
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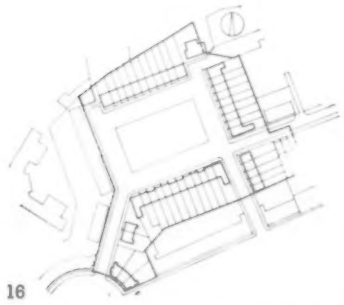
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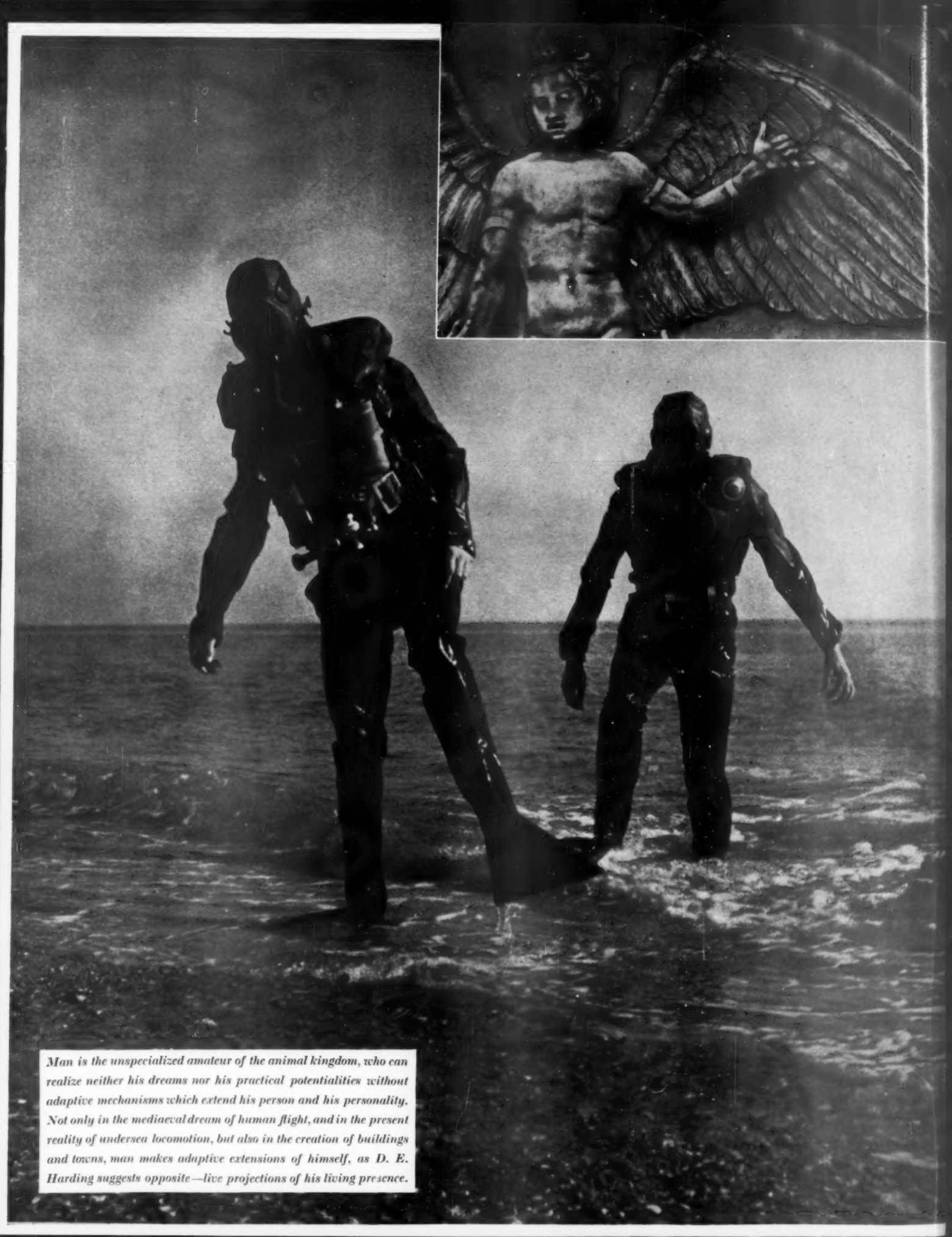
15, aerial view from the west showing how the four-storey block, Holford House, has been designed as a link with Percy Circus on the right of the photograph. It is a pity that the recently completed extension to the L.C.C. school (the small square building opposite Holford House) has made no attempt to relate itself to the Circus. 16, plan of the old square before the war, with the west side demolished.



16

able to check its cost compared with other systems. Drawings were consequently prepared showing three alternative methods of r.c. construction: crosswalls and flat slabs, *in situ* columns and beams, and precast columns and beams. In the case of the column and beam systems the span was the width of one room, and in the crosswall system either one or two rooms. The firms invited to tender were given the option of quoting for any of the three systems and in fact tenders for each system were received. The analysis of the tenders showed that, taking into account the total construction costs, the first two systems were equal in cost, and the third was considerably dearer. The crosswall system was consequently adopted. The foundations consist of piles taken down to a depth of 30 ft. to 50 ft. to the London clay. The rows of piles are connected by beams carrying the crosswalls over. The structure of both blocks consists of 6-in. load-bearing reinforced concrete crosswalls at 20 ft. 10 in. centres and 8-in. solid reinforced concrete slabs. The external walls of the 8-storey block are of 4½ in. thick precast concrete slabs, a 7¾ in. cavity, and 3-in. clinker blocks, with panels of brickwork under the windows. In the 4-storey block the materials are reversed, brickwork being used for the larger panels and precast slabs under the windows.

The external walls along the galleries are of 4½-in. brickwork, with a 2-in. cavity and 2-in. inner lining of clinker blocks. On the gable walls the precast slabs were used as shuttering for the *in situ* concrete wall, which on its inner face is finished with plaster on battens providing an air space for ventilation. The roofs are finished with foam-slag insulating concrete laid to falls, screed and asphalt. The floor finishes are laid on cement screeds 'floating' on glass-silk insulation. Between the flats there is additional acoustic insulation to the 6-in. concrete party partitions consisting of an air cavity and plasterboard on battens. The precast concrete panels forming the external walls are of two kinds. Those on the main elevations are faced with Hopton Wood stone chippings, while those on the gables and gallery elevations have a facing of exposed ballast, strings with Hopton Wood stone facing being taken through at each floor level. The panels under the windows on the main elevation are of red clay bricks, while the walls behind the galleries are of brown concrete bricks. The open panels on alternate floors of the central staircase hall are of cast iron; the balustrades of the stairs and the access galleries of mild steel. The main stair has a continuous mahogany handrail. The windows are of galvanized steel sections, with precast concrete cills. Central heating for the whole estate is provided by two fully automatic oil-fired boilers. Each living room is also equipped with an electric fire. Balanced-flue gas heaters are provided in the kitchens and serve the sink, lavatory basin and bath. These heaters are entirely concealed, being built into the back of a cupboard. As both the intake and the exhaust are outside the flat the internal atmosphere is not affected. On the roof of Bevin Court there are covered areas, enclosed by mesh panels, for drying clothes. All the living-room and bedroom floors are finished with thermoplastic tiles, and the passages, bathrooms and kitchens with granolithic.



Man is the unspecialized amateur of the animal kingdom, who can realize neither his dreams nor his practical potentialities without adaptive mechanisms which extend his person and his personality. Not only in the mediaeval dream of human flight, and in the present reality of undersea locomotion, but also in the creation of buildings and towns, man makes adaptive extensions of himself, as D. E. Harding suggests opposite—live projections of his living presence.



D. E. Harding

EMBODIMENTS

ARCHITECTURE AS A BIOLOGICAL FUNCTION

Vitruvius begins his *De Architectura* with a formidable list of the branches of knowledge with which an architect ought to be familiar.* They include philosophy, music, medicine, and optics, as well as painting, sculpture, and mathematics. A few architects, and among them some of the greatest, have approached this ideal of versatility: familiar instances are Michelangelo, Bernini, Vanbrugh and Wren—the last was actually appointed Savilian Professor of Astronomy at Oxford. Modern architects may plead, of course, that the renaissance master did not have to wrestle with the innumerable technicalities which beset us. To which he might reply, with justice, that his difficulties, though unlike ours, were no less formidable, and that we are narrow specialists because that is what we want to be.

We are so busy being architects that we have no time to wonder what it is to be architects. This has its advantages. If the Garden Spider (that designer of genius) were to stop to consider how and what and why he builds, he would probably find himself leg-tied and incapable of building anything at all. Similarly, it seems, some human designers need to work in a kind of specialist's daydream. To rouse them would be to risk breaking the fine thread of their thought, and might end in paralysing entanglements.

There are many others, however, who are ready to pay the price of fuller self-awareness—namely, some loss of time and perhaps even of efficiency—in the hope of greater efficiency in the end, and in the certainty of greater pleasure now. This article is written for them.

architecture makes man

What does the architect do for man? What is his real job? Is it merely to set man in a beautiful and convenient environment, to contrive the best possible devices for him to live in?

Not at all. The architect does not make man's trimmings. He makes man. He does not design containers for the human body, but its indispensable extensions or outgrowths. He contrives a large part of that vital equipment lacking which a man is not a man at all, but an animal or even less than an animal. For the naked human body, whittled down and pared of home and furniture and clothes and tools, is no longer a truly human body. It is incapable of any specifically human function, and even of survival. My hands and feet are not so much organs as organ-holders, or limb-buds from which some truly human limb-ending—pen-finger or hammer-fist, bootsole-hoof or pincer-claw, plane-wing or oar-fin—may be grown whenever it is needed. My life extends far beyond my skin, which is little more than the raw surface of animal flesh upon which must be grafted such human integuments as my shirt and jacket, my wall-paper and two-coat plaster, and the skins of my 10-inch cavity wall. Well may Samuel Butler complain: 'If those who so frequently declare that man is a finite creature would point out his boundaries, it might lead to a better understanding.'[1]

In a manner of speaking, man is chiefly not-man, and the not-man chiefly architecture. And the whole lives. You cannot meaningfully say of this whole that it is alive here and dead there, any more than you can meaningfully say of my life-blood that it is a dead juice in which living corpuscles are swimming for their lives and for mine. What at once makes and is

* This article is based on part of D. E. Harding's book *The Hierarchy of Heaven and Earth*, Faber & Faber, 21s.

[1] *Life and Habit*, p. 104. Cf. Goethe: 'When to my car my money yokes six spankers, are their limbs not my limbs? Is't not I on the proud racehorse that dash by? Mine all the forces I combine, the four-and-twenty legs are mine!' *Faust* (Anster's trans.), I.4.

And A. N. Whitehead asks: 'Where does my body end and the external world begin?' *Modes of Thought*, p. 155.



made by vital functioning is itself vital functioning. 'Man is a tool-using animal,' wrote Carlyle. 'Without tools he is nothing, with tools he is all.'[2] They are part of his human nature.

No, a house is not a machine for living in, but an organ for living through. The client comes to his architect seeking an organism rather than a convenience, for the unhoused and the underhoused are to some degree disembodied or disorganized. The architect treats and cures partially-Invisible Men: he bodies them forth, helping them to grow the healthy physique which makes solid and well-formed humans of them. He is much more like a plastic surgeon or a physical culturist or a midwife than a tool merchant.[3]

nature and artifice

It was all very well for Emerson to say 'These temples grew as grows the grass,'[4] but he was not their architect, and certainly not one of their sweating masons. Yet he was right. The Parthenon is as truly a natural specimen, a piece of natural history, as Emerson himself.

Of course you may say, if you like, that the designer's work is to extend and fulfil nature by art, so long as you add with Shakespeare that 'the art itself is nature.'[5] It is natural for man to be not only an artificer but artificial—to be nine-tenths his own artefact. All you can mean when you distinguish his works from nature's is that in them nature is waking to intention and awareness, is coming at last into her own. If anything, buildings are (like Alice) 'as real as life, and twice as natural.' Here, in their designing, is that small part of the total design of the universe which we may well claim to understand, seeing that it is done by us and for us and through us. Yet, paradoxically enough, it is precisely our inside knowledge of this piece of nature called a building project, our first-hand information about it and our control of it, which seems to remove it from nature: whereas in fact it is just this special intimacy which should make it for us the most revealing of all instances of nature at work. To be an efficient designer is to live in the very bud and growing point of the evolutionary tree, and there to enjoy real insight into its most vigorous thriving. And certainly not even the most rugged individualist amongst us is employed as an *outside* architect by nature: we are all on her staff, salaried men of hers. At least occasionally, then, it should be true of the architect as of the hero of Notting Hill,



that 'the artificial city had become to him nature, and he felt the curbstones and gaslamps as things ancient as the sky.'[6]

the extension of the body

You may object that this latest kind of growth, this new departure in evolution which man controls, is a crude substitute for the old; that its organs are loose and optional and inert and mere appendages or makeshifts, bloodless and insensitive; that (in short) this so-called growth is not growth at all, but only addition.

You would be wrong: the facts are the other way round. A man—the total organism—would be less alive and not more alive if his drain-bowel were a mere trailing outgrowth incapable of painless amputation and regrafting as often as he pleases, if it were made of living tissue instead of 4-inch and 6-inch and 9-inch salt-glazed stoneware pipes jointed in cement

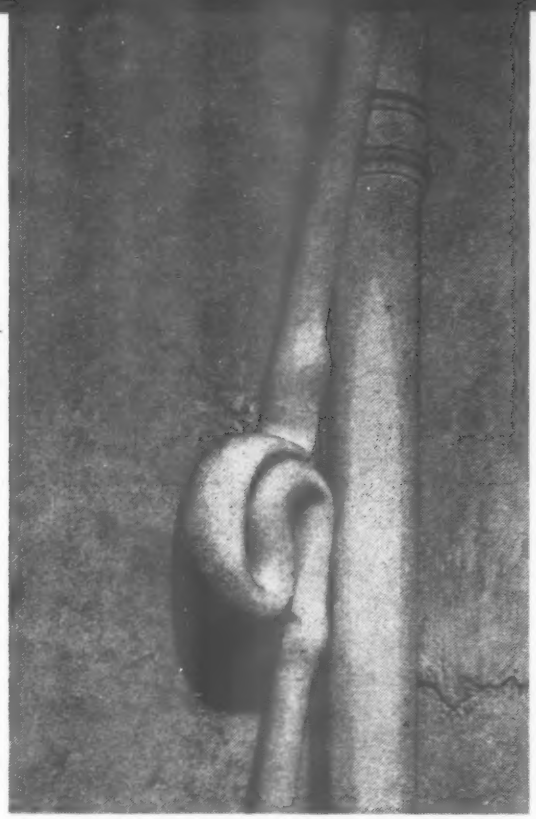
[2] *Sartor Resartus*, I.5.

[3] 'Although to be patterned in the form of a man is something to be more or less pleased about, the source of joy beyond all reckoning lies in the fact that a thing like man's body has a myriad transformations, and there never has been a limit to them.' *Chuang Tzu Book* (E. R. Hughes' trans.), VI. This was probably written in the third century B.C.

[4] 'The Problem.'

[5] 'Yet nature is made better by no mean,
But nature makes that mean: so, over that art
Which you say adds to nature, is an art
That nature makes . . .
. . . this is an art
Which does mend nature,—change it rather;
The art itself is nature.'
—*The Winter's Tale*, IV.3.
Cf. Browne: 'Art is the perfection of Nature.' *Religio Medici*, I.16.

[6] G. K. Chesterton, *The Napoleon of Notting Hill*, III.1.



mortar, if it could never be rodded and smoke-tested and water-tested and grubbed up and relaid to proper falls without an anaesthetic, if it were liable to diarrhœa and dysentery, if it took millions of years instead of hundreds to evolve from its beginnings to its present form. If it were more alive he would be less alive. The deadness of the part promotes the life of the whole, and shares in it, and so is raised from the dead. By themselves and cut off from their users, drainpipes are of course stone-dead stoneware; but as continuous with their users they are living stones, hardware come to life. Doubtless the architect must mentally amputate and so kill these organs when he is specifying and inspecting them, but that is no reason for never pausing to think what he is really up to. Butchery is not his only business.

In any case, *all* our building materials are dead, whether they make up our flesh or its extensions. If you take the components of any creature one by one, and ignore the whole, you will sooner or later come upon nothing but lifeless matter. Our saliva,the lymph of our bloodstreams, our atoms—these are no more alive than our drains. Life is not a ghostly presence haunting organisms, but a function of their wholeness, of the total pattern, of the togetherness of their lifeless parts which include outer artefacts no less than inner chemistry. D. H. Lawrence's wish that 'cities might be as once they were, bowers grown out from the busy bodies of people' has never really lacked fulfilment.

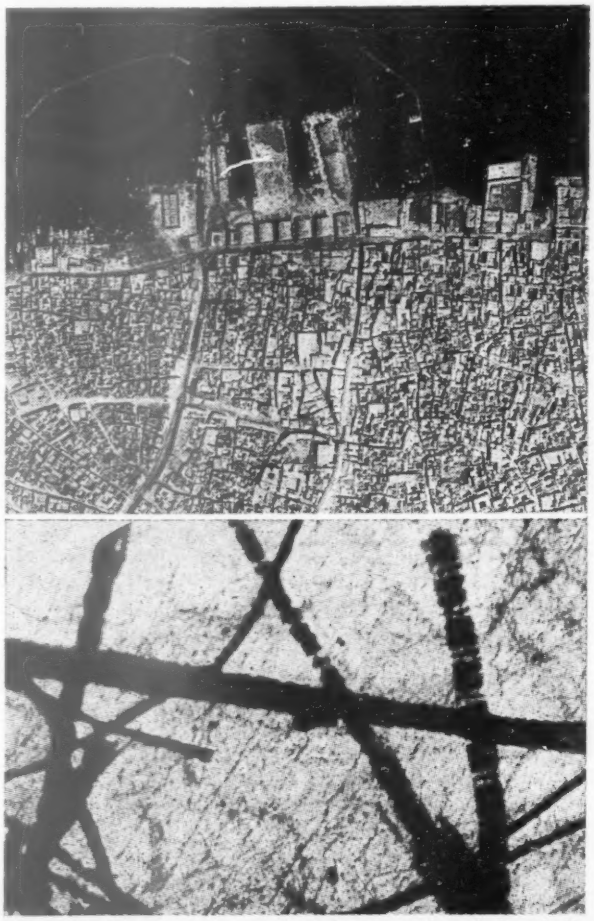
the house comes alive

It is a disturbing (and possibly inspiring) thought that when your client moves into the house you have built for him he moves into every part of it, from the tips of his radio-antennæ to the soles of his footings, and that in the man thus enlarged the whole of your work springs to life. For he is little more than a lodger or a caretaker till he feels co-extensive with the structure, and its cube is his, and he is sensitive to its slightest injury, and hurt when it is hurt, and praised when it is praised. The psychology here is no less than the proper counterpart of the physiology, seeing that this brick-and-mortar physique that you have cultivated for him, this outgrowth, contributes far more to his life-pattern and life-history than a great deal of his flesh-and-blood physique can ever do. He does not live in the house: it lives in him.[7] You have not designed a receptacle of life, but a way of life. Now he has more reason to fear the loss of a few slates than a few hairs, and a lesion of the extended bowel may be as dangerous as a lesion of the unextended. Again, he can spare his appendix sooner than his dampcourse, toenails than roof-nails, a finger-joint than a truss-joint.[8]

Indeed, your client is now a very complex creature, quite unlike any mammal. He lies right outside the vegetable and animal kingdoms in a third kingdom—the human. This kingdom is your province. As planner, you have seen to it that every organ of his extended body has its proper spatial relation to the rest; as constructor, that it has its proper physical constitution; as heating engineer, that it has its proper temperature. For example, take the last, and consider the system of body-temperatures which are

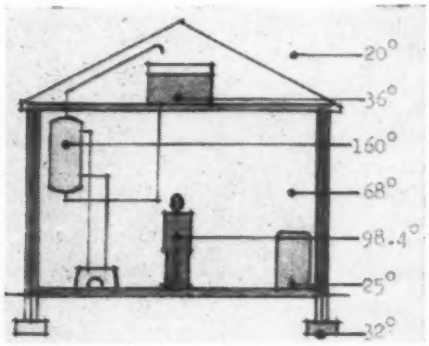
[7] The philosopher Giordano Bruno (1548–1600) claimed that the stable was alive when the horse was in it, and his hat was alive when he put it on—and by *alive* he did not mean *lousy*!

[8] 'Often if an accident happens to a gentleman's legs, they can be mended; but if a similar accident happens to the legs of his pantaloons, there is no help for it . . . Dress a scarecrow in your last shift, you standing shiftless by, who would not soonest salute the scarecrow?' Thoreau, *Walden*, 'Economy.'



'cities might be as once they were, bowers grown out from the busy bodies of people.' Above, part of the city of Kuwait, below, fibrels in a beef tendon.

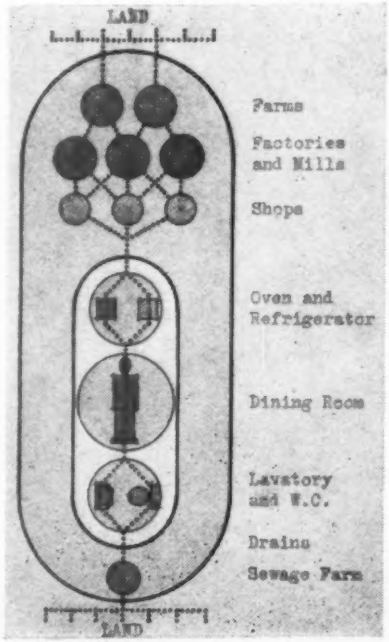
normal in your now well-developed client. His blood-system is maintained at a steady 98.4 degrees, his hot-water system around 160 degrees, his refrigeration-system around 25 degrees, his warm-air system around 68 degrees, his foundation system (if he stands on clay) at not less than 32 degrees. And his outer skins have been designed as a superior kind of insulating fur or feathers, with a view to maintaining these body-temperatures at a minimum cost in calories.



Language itself bears this out. It is no mere oddity of speech that we credit the house and parts of the house with human functions, referring (for instance) to the Dining Room instead of the Dining-man Room. The inhabited room dines—you have planned it so—and its mouths are the service hatch and the tradesman's entrance. Your living room is a *living* room, and your dwelling dwells. It is good sense as well as good idiom to say that the house *sleeps* at night and *wakes* in the morning, and *overlooks* its neighbours, and *faces* south, and is *fed* with gas and electric current, and has good (or bad) architectural *manners*. For it is nothing else than your enlarged client doing all these things. Sleeping men include as well as need sleeping clothes and sleeping rooms and sleeping houses and sleeping cities.

the total organism

'A man's Me is the sum total of all that he can call his, not only his body and his psychic powers, but his clothes and his house . . . his lands and horses, and yacht and bank-account.'[9] Indeed, he extends far beyond all his private property, and covers many square miles. Like any cow, he feeds on the land at one end and excretes on the land at the other; only his two ends may be a thousand miles apart—as far apart as the farm where his reaping-machine jaws are feeding, and the farm where his sewage effluent is finally returned to the soil. Like the cow, he needs more than one stomach; only he may run to scores of stomachs—



[9] William James, *Textbook of Psychology*, p. 177.

stomachs of that new (but, nevertheless, quite 'natural') sort which we call threshing machines and mills and factories and bakehouses and kitchens. Like the cow, he must drink; only instead of walking up to the lake he prefers to grow up to it, and drink without moving—his iron mouth sucks permanently at the reservoir. Like the cow, he can see and hear only what is in sight and within earshot; only he grows new ears and eyes wherever he needs them, and spares himself the trouble of moving about to discover what is happening—every telephone instrument and television camera is his sense-organ, potential or actual. Thus man is not so much a nimble biped as a sedentary myriapod, thanks to the engineers and town-planners and architects who, during the last 10,000 years, have been redesigning him.

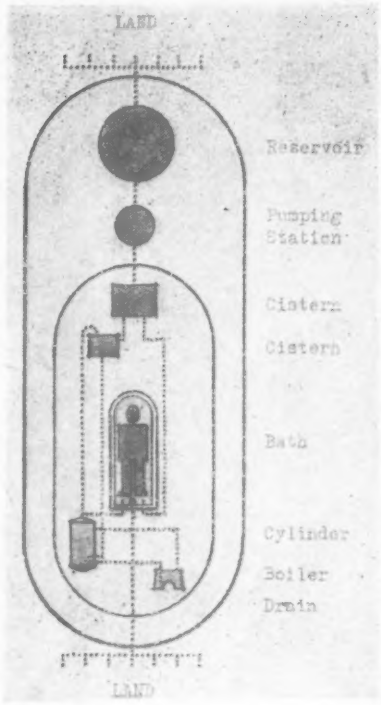
growth and amputation

But if this were the whole story—if the designer were concerned only with the growth of bigger and better human organs—then he would in fact be doing man a terrible injury. For ungrowth rather than growth is the mark of a human being. It is even more important to be able to amputate your four bed-legs in the morning (at the first attempt if you can, and without too much pain) than to be able to grow them at night.[10] The bedridden have not advanced, but in their own way reverted to the quadrupedal state, to the condition of the animal that stupidly clings all its life to a single set of tools. Unable to move house, the snail is injured and dies with it, whereas the man merely calls in the demolition contractor and the architect to set him up with a healthier integument. In a sense, every *permanent* outer skin and limb-ending and sense-organ is a cancerous growth, morbid tissue, a tool that possesses its user.[11] If you cannot shuffle off your television set or your house it has become a truly mortal coil. The too house-proud woman is like a giant snail or limpet: she is miserably vulnerable because inordinately attached. House-ridden, she becomes inhuman, distorted, monstrous. Her architect is guilty of having cultivated a morbid growth upon her.

The fact is that to be human is to be *less* than animal—to lack the lobster's claw, the spider's spinnerets, the swallow's wing, the horse's hoof, the tortoise's armour, the moth's antennæ, and almost all the immense range of nature's instruments. It is to be feeble, naked, inexpert, incurably amateurish—and unspoiled. It is to be a species of universal joint, a socket for innumerable limbs, a handle of innumerable tools. And the reward of man's age-long restraint, of his refusal to grow any one particular set of animal appendages, is that eventually he grows them all, after his own fashion. In his ancestors he was content to wait while, impatiently, corals outbuilt him, and fish outswam him, and birds outflew him, and horses outran him, and every other

[10] It was not so long ago when a German peasant would put a chair-leg in splints if one of his sheep broke a leg—sympathetic magic, of course, but there is some sense in it.

[11] This is true even of our 'natural' organs: we have to learn to amputate them mentally. Thus Marcus Aurelius: 'As for thy body which as a vessel, or a case, compasseth thee about, and the many and curious instruments that it hath annexed unto it, let not them trouble thy thoughts. For of themselves they are but as a carpenter's axe, but that they are born with us, and naturally sticking unto us.' *Meditations*, X.38.



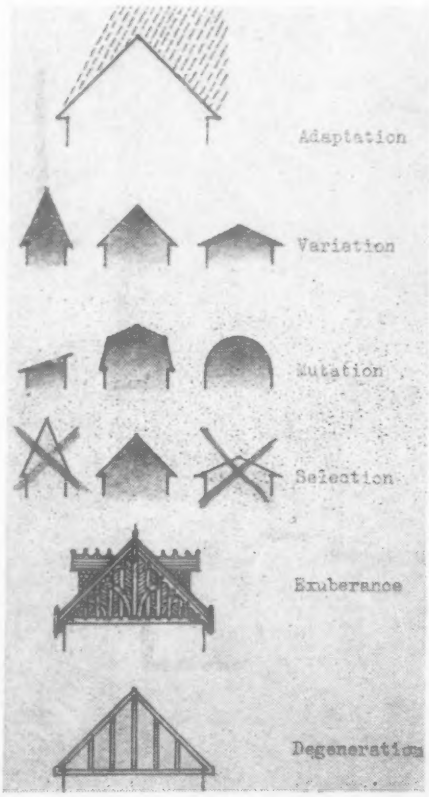
animal outdid him in some special skill. And now he outdoes them all, incorporating in his great body all the fins and flippers and wings and claws and shells that are distributed piecemeal throughout the animal world.

Like an octopus or an Eastern god, he is many-limbed; only his arms are not held apart in space so much as in time. His house is something between an armoury and a Bluebeard's chamber, where his amputated limbs are hanging in readiness for re-incorporation. As he goes about the house he is, accordingly, transformed, and reborn a new creature in every room. To be a man bathing and then a man telephoning is to have slipped out of one embodiment into another so easily that the metamorphosis passes unnoticed.

the evolution of artefacts

Clearly, then, the effectiveness of this new kind of human growth lies in its immense difference from the original organism which it extends. Nevertheless, because the tool-bud is functionally united to the limb it grows on, and is no makeshift or orthopædic device, the main laws of its development are those of all life. Let me give some examples.

The so-called artificial organ, like the natural, develops by *adaptation* to a changing environment. For instance, just as my feet are fins progressively adapted to travelling on the land, so my footings are walls progressively adapted to resting on the land. Such adaptations arise from *variation*. Many kinds of feet and of foundations have been hit upon and tried out—some of them important new departures or *mutations* which change the course of evolution, and others which are trivial. But, whether important or not, these variations are all the while subject to *selection*—first a blind sifting by circumstances and economic pressures, and then a conscious sifting in the light of experience. (Architects, who have weeded out innumerable characteristics of the house, are only carrying on the work of nature which has weeded out innumerable characteristics of the householder—the main difference being that only in the first case can the organ be scrapped without scrapping the organism.) And selection often leads to *exuberance*, when some organ goes on developing much further than practical needs seem to require; and conversely to *degeneration*, when the organ survives, in a useless and vestigial form, long after it has been superseded. Examples of the first are the peacock's tail and fan vaulting, and a woman's hair and hairstyles and hats; of the second, the whale's hind legs (now deeply buried in its body, and shrunk almost to nothing), the dummy half-timbers which are still planted on to suburban gables, and the dummy buttonholes on a man's sleeve —vestiges of his once turned-up cuff.



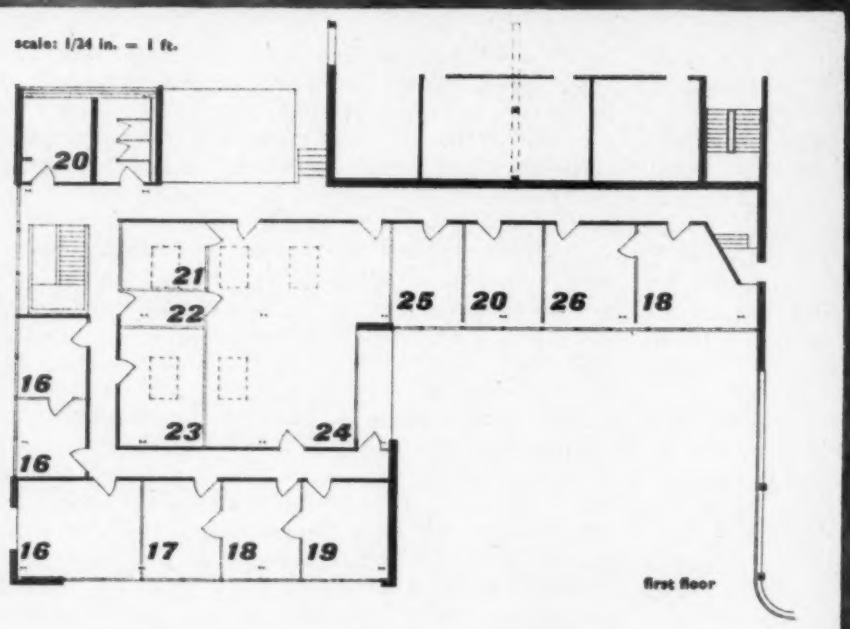
Here, then, in tailoring and planning his outer body, man is continuing more economically and swiftly and intentionally the natural processes which have produced his inner body. Architecture is biology brought up to date.

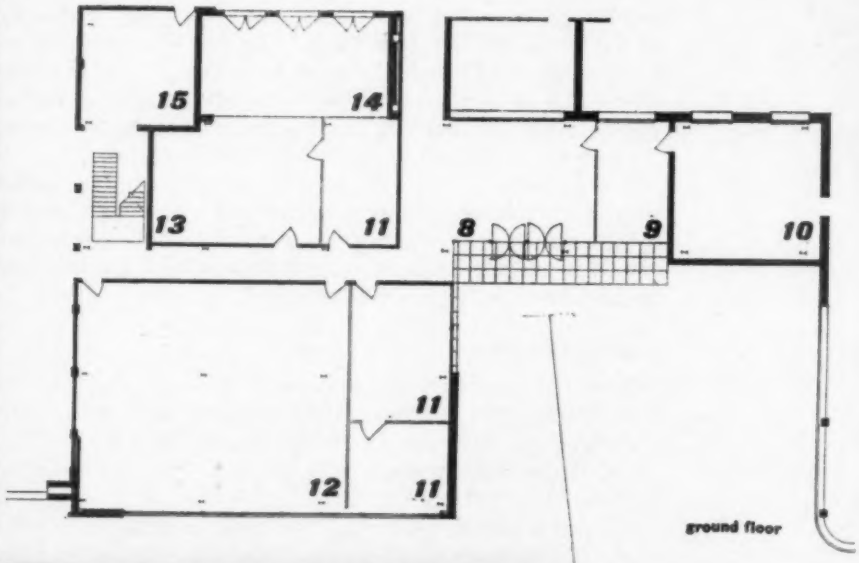
practical conclusions

Such considerations cannot help but change our attitude to our job, giving us a new vision of it and respect for it and delight in it. Henceforth we shall be more alive, because more alive to our vital (and, indeed sacramental) office.

Also we shall, perhaps, be more sensitive to the individual needs of the men and women we at once build for and build. To design a fitting body for your client you must know his mind, so that the one shall match the other—or, at the very least, shall do no violence to it. Obviously it will not do to fit up the all-in-wrestler and the mystical poet with the same type of extended physique. We shall be inclined to think again about large repetitive housing schemes, and all planning which reckons in terms of income groups or classes of people instead of unique individuals. When we plan dwellings for persons we neither know nor try to know, are we not mistaking the function of the architect, treating the house as the standard dead-pan mask instead of the unique living expression of its unique family? Are we not apt, by standardizing the outer man, to promote the standardizing of the inner man, and by imposing our architecture (however excellent) upon him regardless of what he is, to impose upon him body and soul? Architects make men. The question for us is: what kind of men? And how many kinds? Architecture is one of the most important ways in which human beings vary. And appropriate variety is more than the spice of life: it is the main dish.

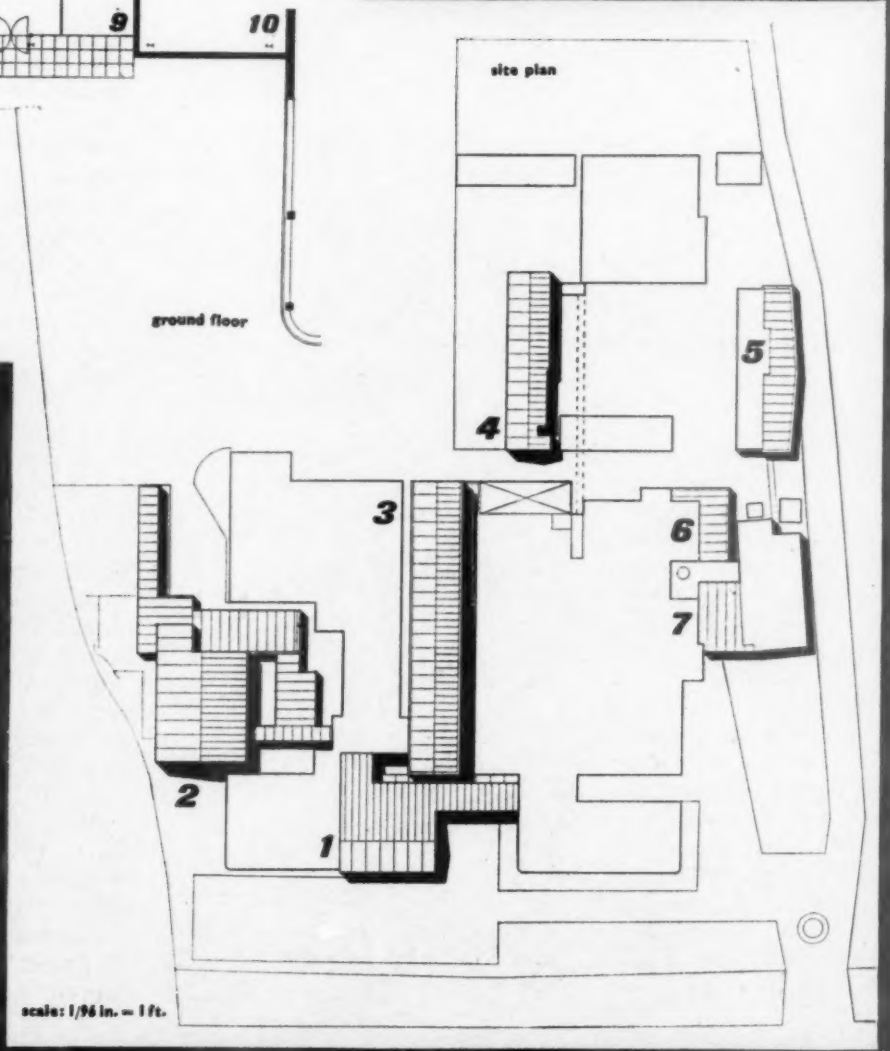
OFFICE EXTENSION IN MIDDLESEX

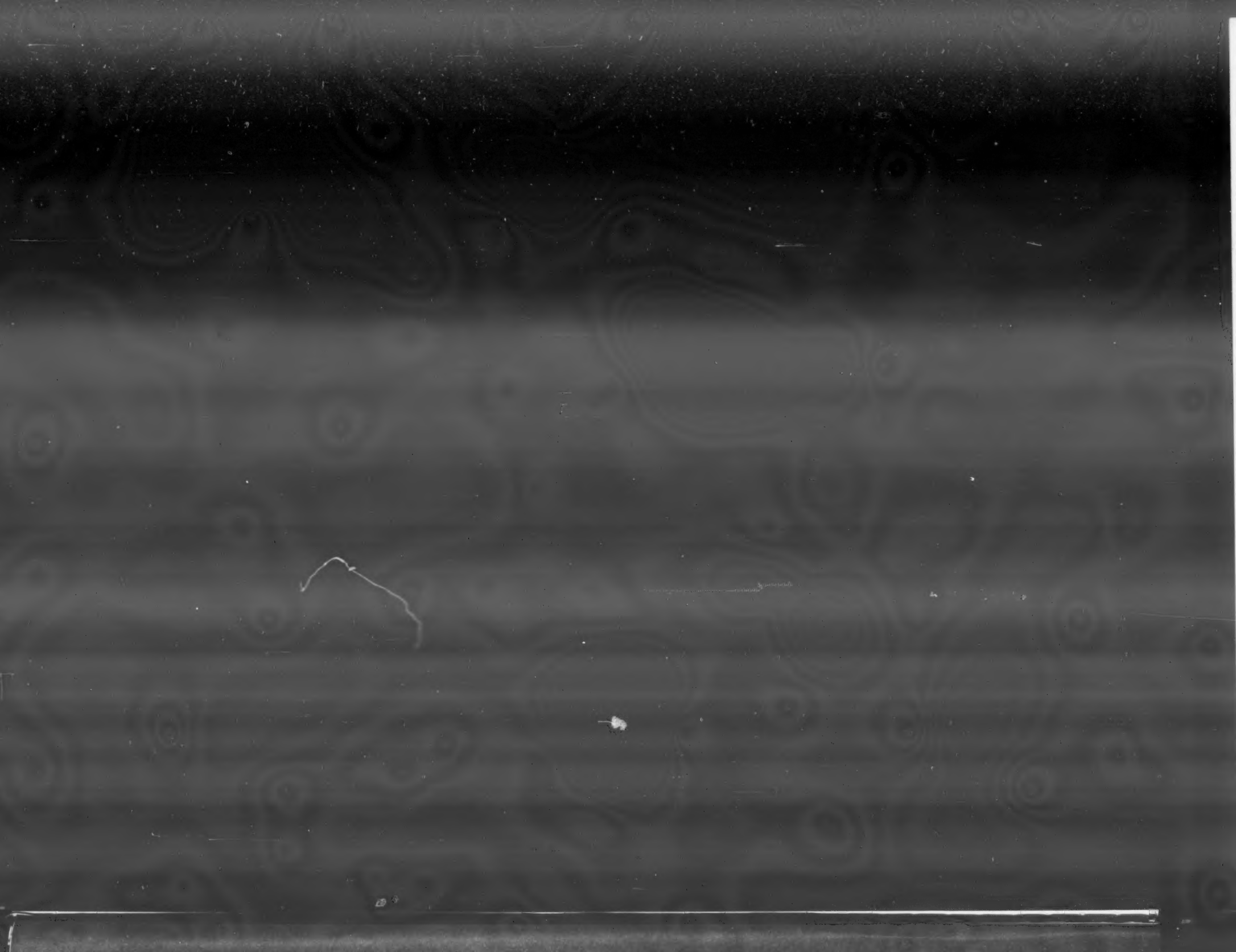




key

1, new office extension.
2, canteen (see AR, Nov. 53).
3, fourth transfer machine building.
4, pipe bending shop.
5, film vaults.
6, boiler house extension.
7, film vaults.
8, entrance hall.
9, waiting room.
10, open store.
11, offices.
12, release production office.
13, preparation production office.
14, garden.
15, castings office.
16, technical development.
17, assistant engineer.
18, secretaries.
19, chief engineer.
20, progress control.
21, supervisor.
22, waiting lobby.
23, plant meeting room.
24, positive control office.
25, process superintendent.
26, plant administration.





OFFICE EXTENSION IN MIDDLESEX

ARCHITECTS | **GODDAY AND NOBLE**

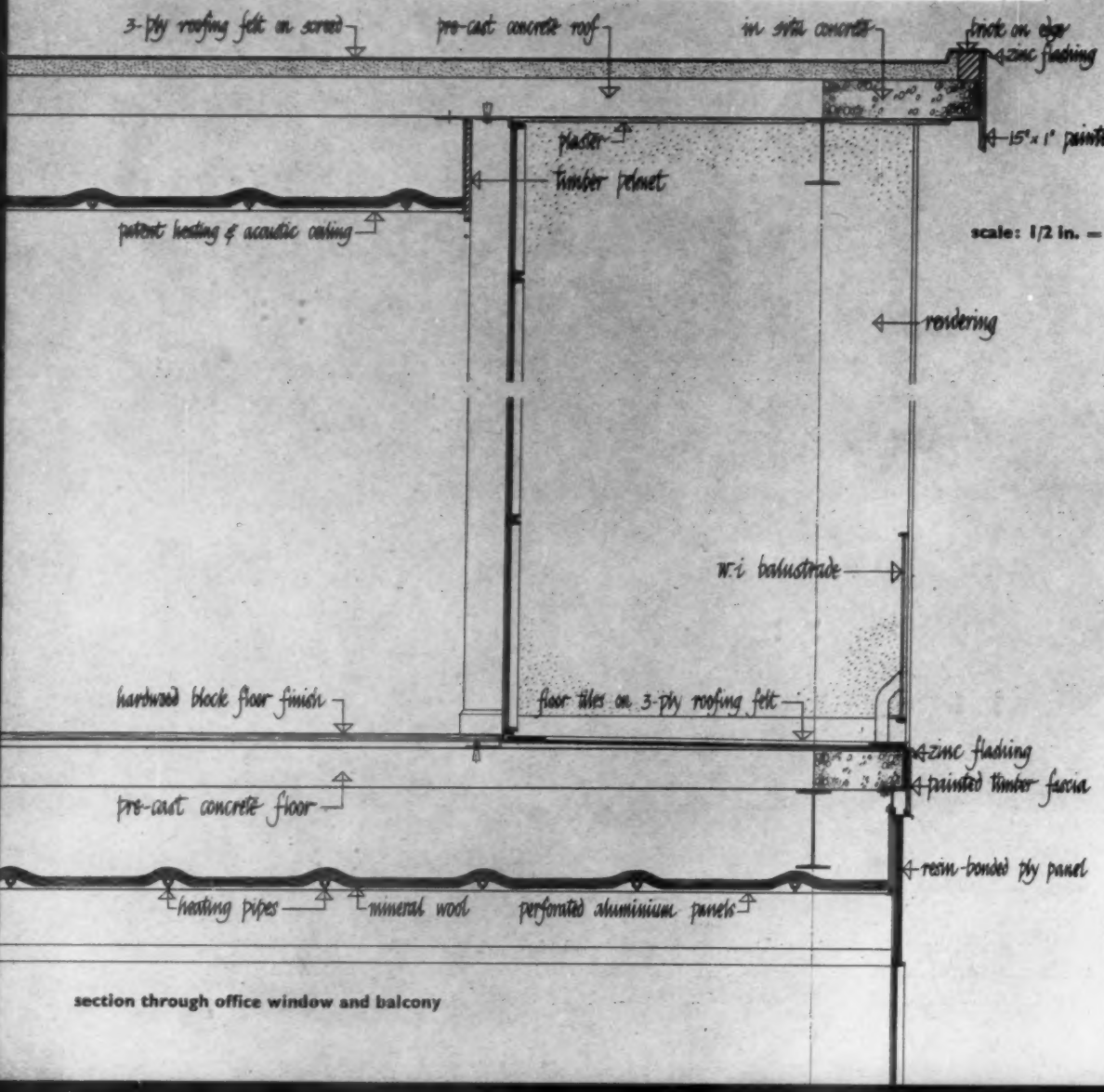
1. the main entrance to the new office block.



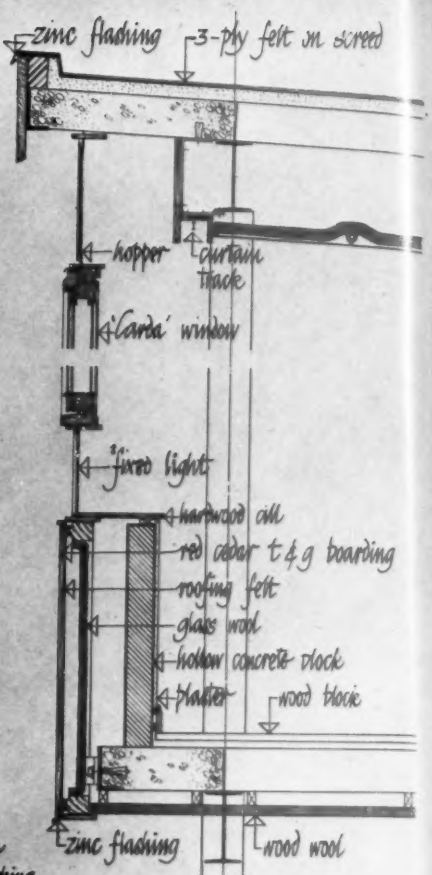
This is part of the post-war expansion programme of the Technicolor buildings on the Bath Road, opposite the north boundary of London Airport. One of the earlier stages in the programme, the Works Canteen, was illustrated in THE ARCHITECTURAL REVIEW for November, 1953. The new administration offices for the control of film handling were designed as a link between existing double and single-storey buildings. Previously there was no direct circulation between these two administrative units except through the laboratories. The office block is L-shaped and, together with the existing two-storey office, encloses a pedestrian concourse leading to



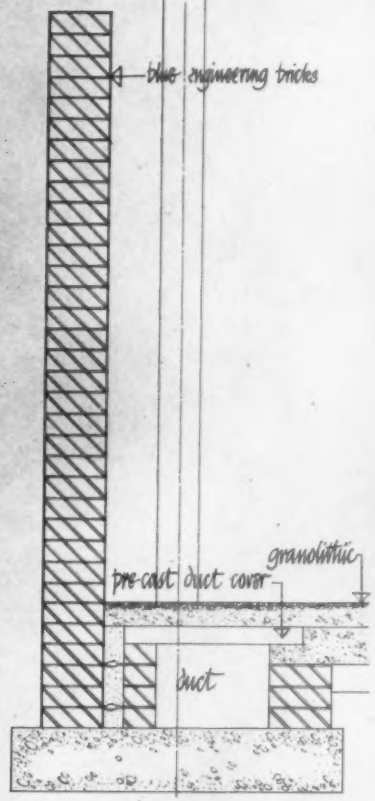
2, the main entrance from the south-east.



section through office window and balcony

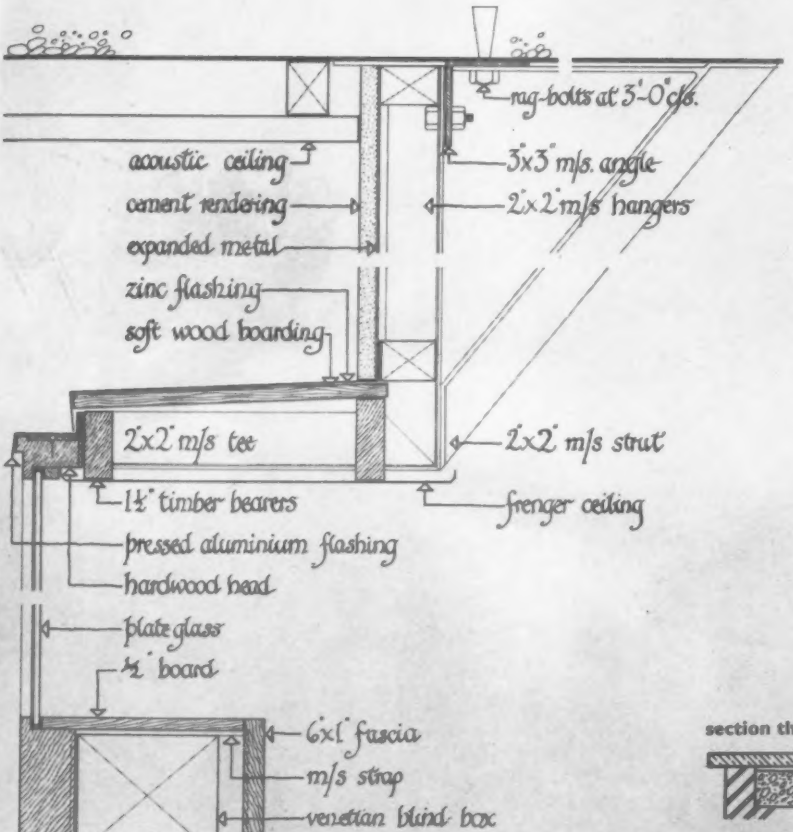


scale: 1/2 in. = 1 ft.



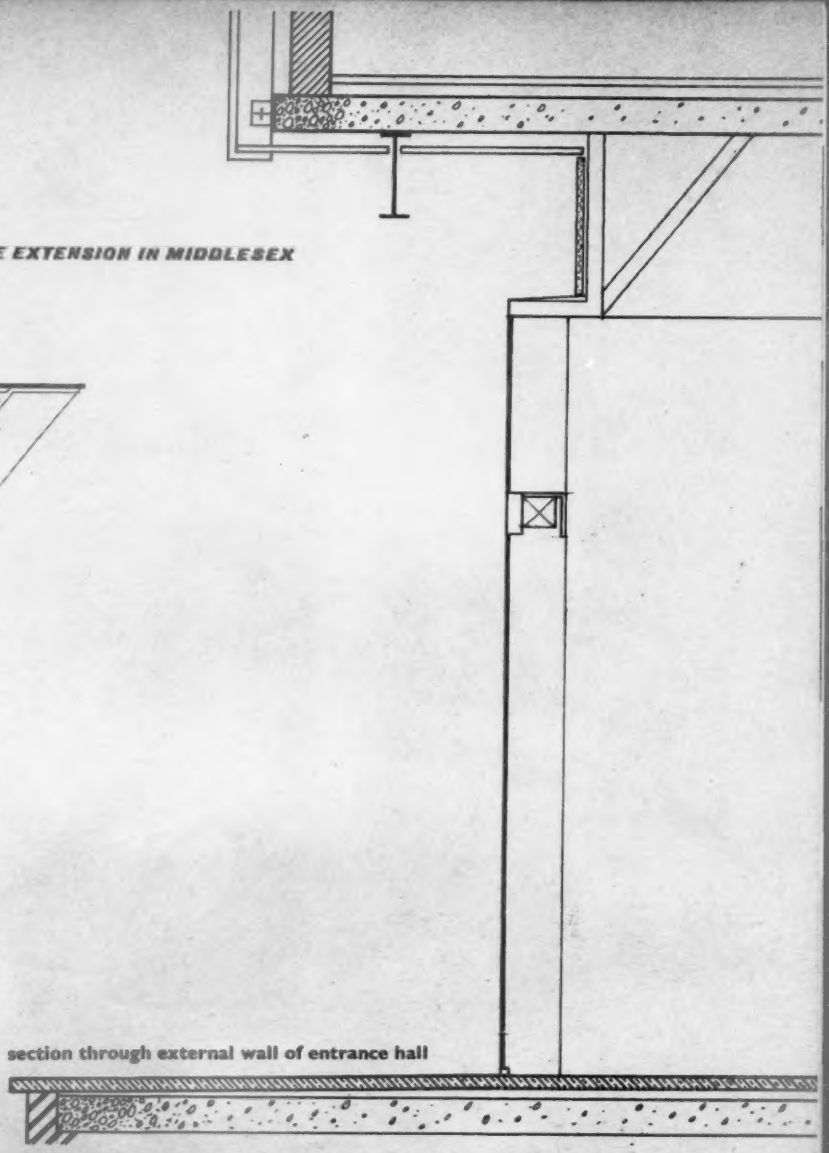
section through open store wall and first floor offices

OFFICE EXTENSION IN MIDDLESEX



detail of section above

scale: 2 in. = 1 ft.



section through external wall of entrance hall

scale: 1/24 in = 1 ft.



B, inside the entrance hall, looking through the waiting room to the open store.

4

4, on the facing page, the south entrance façade of the new block. The double, pivoting windows have venetian blinds between the two panes of glass. 5, general view of the new wing from the south-east. 6, view of the new laboratory block from a first floor roof. Another roof-view ; the large window is at the top of the staircase.



5



6

the entrance hall. The gallery of offices above the entrance hall is backed with a continuous corridor, with staircase hall at the west end giving complete circulation between the existing and the new building.

The office construction is of a steel frame, with precast concrete floors, and non-load-bearing panel and brick walls, formed from buff Ibstock facing bricks ; the south front is formed of prefabricated aluminium curtain wall of mullions and transoms fixed to the edge of the concrete floors and roof. Double glazing and a solid concrete roof with a glass-wool blanket have been used to reduce noise from both airport and roadway. Below this, the perforated metal ceiling not only acts as an absorbent panel, but reflects heat, which is conducted from a grid of hot-water pipes acting as a supporting frame.

The panels below the double glazed fixed windows are of western red cedar, backed with a hardwood framing and fibre-glass insulating blanket and the inner leaf is

7





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9



11

8, clock, designed by the architects; the wall panelling is of abura wood. 9, a standard wall light fitting. 10, the open staircase, from the ground floor corridor. 11, first floor offices.

12, the staircase from first floor level. 13, the specially-designed gates, in grey and white, which when fully opened provided an unobstructed space thirty feet wide.

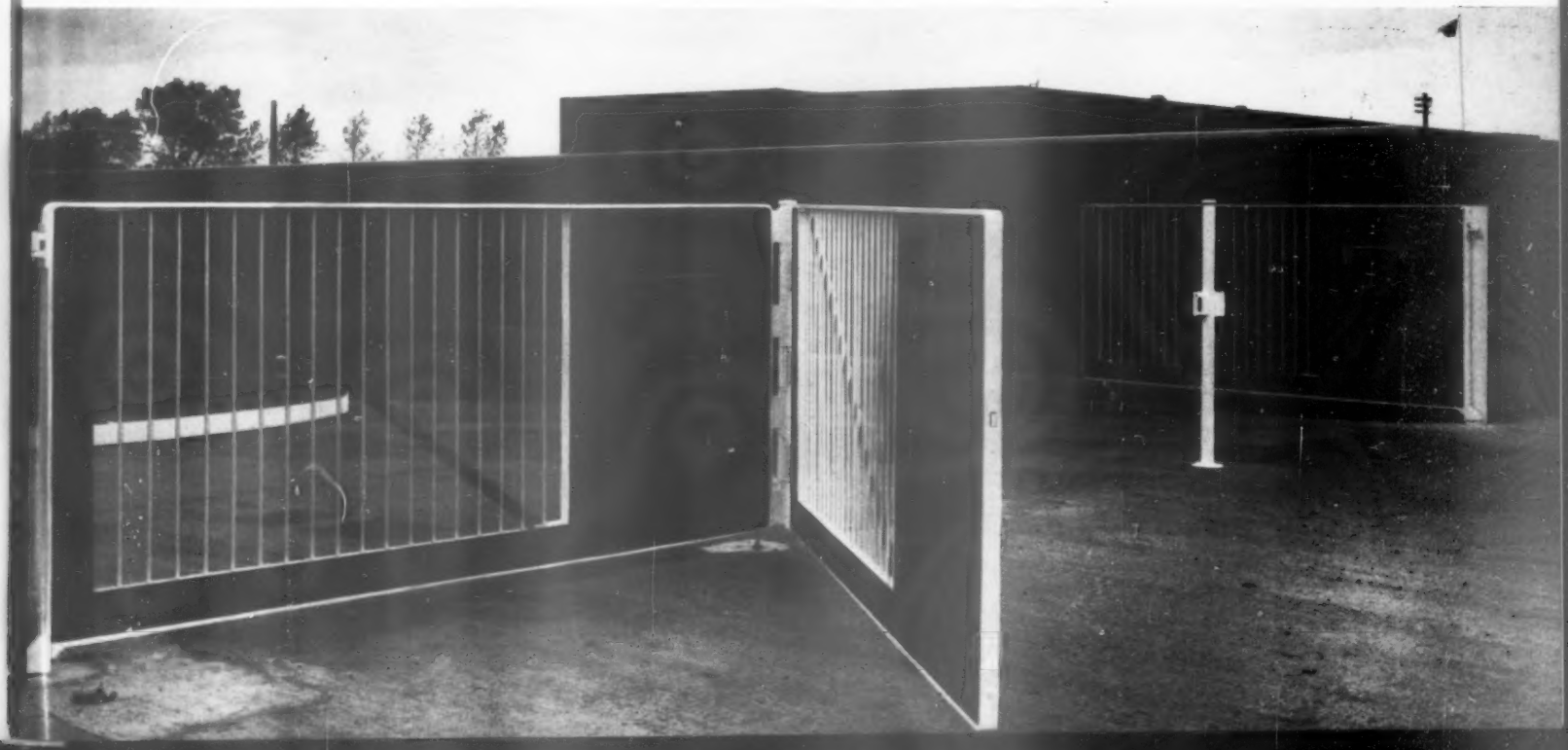


12

formed of a lightweight concrete block, built on the edge of the concrete floors. Below the double pivoting side-hung windows are fixed glazed panels, and, above, the fanlights open into a sound-absorbing pelmet. Part of the walling is rendered with white cement with grey Derbyshire spar pressed on to the surface. The sides of the aluminium mullions are painted black and the faces are painted white. Aluminium angles form a trim at the corner of the buildings, and this is capped with a painted timber fascia. The recessed balcony area on the first floor forms an emergency escape from the first-floor offices. The handrail to this is of galvanised steel painted white and the flank wall is painted flame colour.

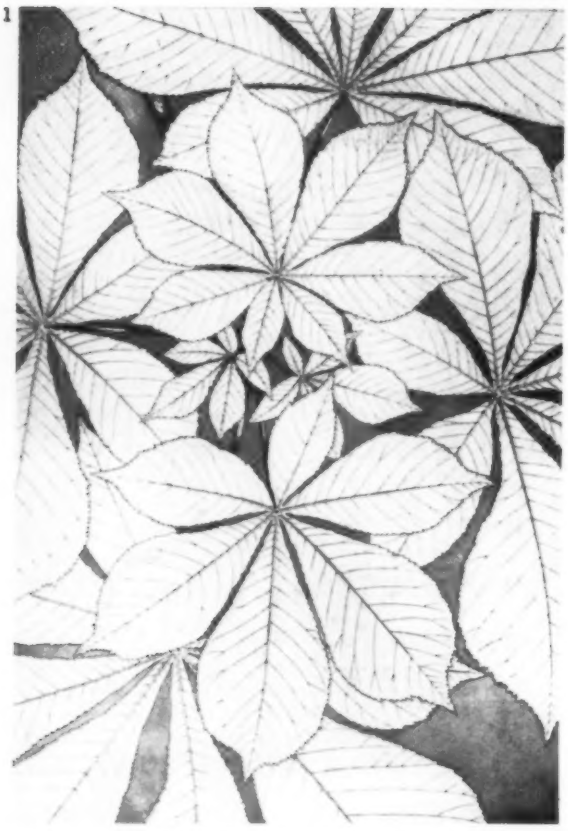
The entrance hall is glazed with ¼ in. polished plate glass with a continuous polished black transom. The doors are framed in hardwood painted white, with finger-tenoned joints. Brass push handles are engraved and colour-filled with the letter 'T' and the internal pull handles are of black metal with white doverite hand grip. The floor is of grey polished concrete tiles, and one wall is painted lime green. The opposite wall is in blue-brick treated with lamp black and vegetable oil. The emergency door in this wall is painted flame colour. The offices on both floors are divided by demountable timber partitions, and these are faced with abura timber slats with fibre-glass infilling; the floors are of polished Rhodesian teak. Lighting within the office is from recessed fluorescent tubes above metal louvres in the ceiling, and generally the ventilation is natural. The architects were given the responsibility for the landscaping and lighting of the internal courtyard, which is illuminated by specially designed mushroom fittings.

13



1856

1





1876

3

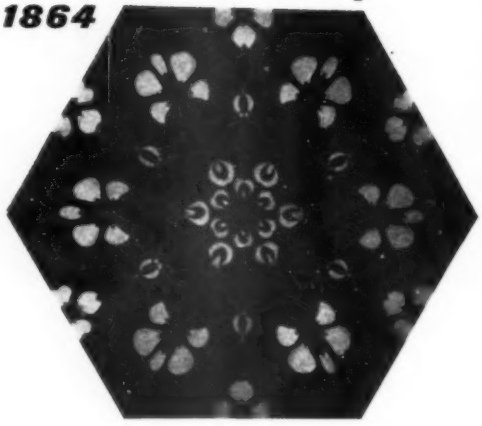
1885



4

2

1864



ENGLISH ORIGINS OF ART NOUVEAU

5 6



1887



germany 1899



THE ENGLISH ORIGINS OF ART NOUVEAU

ROBERT SCHMUTZLER

The importance of the English contribution to the pre-history of Art Nouveau is generally conceded, but rarely subjected to close analysis. Yet the sequence of pattern designs on the opposite page, which begins with Owen Jones, 1, in 1856, and runs through 2, the youthful Kate Greenaway in 1864, William Morris's Pimpernel wallpaper of 1876, 3, Mackmurdo's cretonne of the mid-'eighties, 4, Walter Crane's 1887 bookpaper, 5, and ends with another bookpaper, 6, this time an example of the High Art Nouveau in Germany, designed by E. R. Weiss in 1899—this sequence suggests that the contribution may be more systematic and far-reaching than has been suspected, and it is in this light that the English precursors are re-examined in the article by Robert Schmutzler which begins below.

Art Nouveau is essentially a style of ornament. It gave its best in interior decoration and the arts of the book. It comprises, it is true, architecture and even painting from Gauguin and Toulouse Lautrec to Hodler and Munch, but the principal carrier of Art Nouveau remains ornament. The movement which became at once fashionable and, therefore, soon spent itself pervaded western and central Europe and also North America, though every country built on its own premisses and developed variants of much character.

This article, in trying to prove relations and show early occurrences hardly so far recognized, uses the arts of the book as its point of departure; for illustrated and decorated books and magazines were the most effective transmitters of the new style, because in them the significant tendencies towards flat pattern and symbolism could express themselves in all purity. 'All art is at once surface and symbol,' says Oscar Wilde,[1] meaning—it is true—something quite different, but giving without knowing it himself the briefest definition of Art Nouveau in book art.

In 1893, Aubrey Beardsley presented to the surprised public a book which contained Initials such as the capital letter 'T' which appears in the title above. Melodious lines accompany the swinging contours of a floating T in a flame-like undulating movement unmistakably Art Nouveau. One can recognize plants on long stalks, appearing to abandon themselves to a mysterious breeze, but also to follow obediently the will of the pattern-making artist. There are echoes of observed nature, but everything factual is invalidated and serves only for a play of forms in strange parallels.

In addition, flatness characterizes the pattern. Just as the representation of atmosphere and light and shade is disregarded, so all illusion of space and volume is avoided. Perfectly plane and extremely simplified, the forms oppose each other sharply like a silhouette in reverse. The white of the drawing is deliberately disposed so that the remaining black also seems pattern, that is not a residue of background but a positive complementary set of forms. That this is an Art Nouveau principle can best be exemplified by going to so typical an Art Nouveau designer as the German E. R. Weiss. In this book paper of his, 6, it is indeed almost impossible to say what is pattern and what ground, what is 'in front' and what 'behind.'

Now the deep impression which Beardsley made on the Continent is familiar. It was nearly as deep as the even more familiar impression of William Morris's reform, of the furniture and wallpapers shown at the Arts and Crafts exhibitions, and of Voysey. The Italian term for the new style was taken from the London shop of Liberty's. France often called the style 'le Modern Style' using this English form. The new magazines of the pertinent years—themselves created in imitation of *The Studio*—are full of confirmations of this self-conscious adherence to English models. Recent research has only confirmed this.[2] However, a few particularly enthusiastic passages may yet be quoted.

Siegfried Bing, the art-dealer and Japan specialist, whose Paris shop opened in 1895, was called L'Art Nouveau and established the name of the style, wrote: 'Through the whole of Europe went a cry of delight, when England began to appear with her creations. Their echo can still be heard in all countries.'[3] Olivier Georges Destrée, a Belgian, stated: 'In our country also the fertilizer was the England of Burne Jones and Morris.'[4] And Muthesius, the German architect, said: 'The example of England set off the new movement. The whole world turned in a new direction; England had shown to art the way into a new country.'[5]

But England at that time had no Art Nouveau. She objected to the enthusiastic excesses of the fashion, especially because with more moderation she already possessed so much of the new style. The development stopped in England at the very moment when it began on the Continent. However, the roots lie in England all the same. Here the premisses were evolved quietly and slowly, here the first results reaped. But it is not enough to state this in general terms; concrete examples are

[1] Oscar Wilde, *The Picture of Dorian Gray*, Preface; Complete Works, New York, 1915, Novels, p. 6.

[2] Fritz Schmalenbach, *Jugendstil*, Würzburg, 1935; Nikolaus Pevsner, *Pioneers of Modern Movement*, London, 1936—2nd edition: *Pioneers of Modern Design*, New York, 1949; Friedrich Ahlers-Hestermann, *Stilwende*, Berlin, 1941; Kunstgewerbe Museum, Zürich, catalogue of the Exhibition *Um 1900*, 1952; Victoria and Albert Museum, London, catalogue of the exhibition *Victorian and Edwardian Decorative Arts*, 1952.

[3] Siegfried Bing, Wohin treiben wir? in *Dekorative Kunst*, München, Vol. I, 1898, p. 1.

[4] Olivier Georges Destrée, Die Schmuckkünstler Belgiens: G. Lemmen, in *Dekorative Kunst*, München, Vol. I, 1898, p. 106.

[5] Hermann Muthesius, Mackintosh, Macnair und Macdonald, in *Die Kunst*, München, Vol. VI, 1902, p. 193.

required of adoption and adaptation.

The two decorated page openings which Otto Eckmann designed in 1895 for *Pan*, the first of all the Art Nouveau magazines, 9 and 10, correspond largely to motifs and style of a Beardsley frame, such as 8. The tulip petals and their gentle movement are evidently the same. Especially in 10 the motif on the right side of Beardsley's frame reappears almost literally: the same curve of the leaves, a stalk below, and at the very top the same turn downwards of the tips of the leaves. Even the position on the page is the same: in both cases the motif fills the wider, outer margin. Then there are the wider criteria of style; everything is linear and flat, weightless and undulating, and the data from nature are changed into drawn decoration. Beardsley's frames are not independent of the famous wood-engraved borders of the Kelmscott Press.[6] The smoothly curved outlines of the initials A and T come straight from Morris, as does the asymmetrical treatment of the page. But while Morris takes the whole of the opening of two pages together, Beardsley leaves us with the asymmetry of one decorated page. On the other hand, Morris is again on the side of Art Nouveau when he, as against his late medieval paragons, stylizes the flowers in his rich borders into complete flatness and over-emphasizes the spiral convolutions of trunks, stalks and tendrils, 7. What in such passages in William Morris had been latent Art Nouveau, now, with Beardsley, became uncovered. He also makes use of Morris's vigorous black and white, but carries it to excess.[7] Above all he converts Morris's small and intricate web of flowers into patterns of few flowers, widely spaced and pushed forward close to the page plane. This close-upness, often combined with poster-like generalizations effective even when seen from a distance, is yet another characteristic sign of Art Nouveau.

Eckmann, who, like all the leading artists of the 'nineties, knew Beardsley's work,[8] took from him, but once more adapted and converted what he had taken into something new and personal which went beyond Beardsley. The black and white and the dense texture disappear, where one form had conditioned its opposite form. Eckmann's tulip, self-sufficient, dominates the completely neutral background, 10. The graphic line is richer and more marked—in the sense of Dürer—the Art Nouveau frames are more agitated, and if a certain symbolism had already in Beardsley's expressive flowers gone beyond Morris's neutrality, Eckmann's broken tulip speaks quite plainly. It is the simile of what the poem is about: the girl who died young. And as in this sense the drawing is more literal, so the lettering of the poem is made part of the drawing, producing a unity of text and ornament which no doubt must be traced back at many removes to William Blake. Whether that can be done is a question which would deserve an article all to itself.

But what is the origin of the type of the girl on Eckmann's page, 9. It follows without any doubt the ideal established by Rossetti in his *Childhood of the Virgin Mary* (1849) and *Ecce Ancilla Domini* (1850), 11. Burne-Jones took over this ideal, and it also influenced Whistler. ('He took from Rossetti his manner of feeling and seeing. The type of woman is the same—beauty of dreaming eyes and abundant hair,' says George Moore[9]). Women in England in the 'eighties tried to assimilate the painted likenesses into their own everyday appearance.[10] Reproductions after Rossetti and Burne-Jones were much admired on the Continent in the years of Art Nouveau. Even on the title-page of a Parisian literary magazine *La Plume* appears in the mid-'nineties instead of the usual amorous 'petite femme', the cool and chaste princess of the English Pre-Raphaelites.[11] But while it is known that Rossetti's type of woman with long neck and wavy hair, long flowing dress and strangely nostalgic and mannered poses provided stimulus to the forms and the subject-matter of Art Nouveau, the part which the rooms and furnishings in Rossetti's pictures played in the pre-history of Art Nouveau has never been defined. The amazing scent bottle in *Fazio's Mistress* of 1863 (Tate Gallery, 12) may well be called the earliest of all Art Nouveau objects.

Side by side with this essential Pre-Raphaelite contribution to Art Nouveau, another contribution must be considered: the reception and assimilation of the art of Japan. In Eckmann Japan is too much transformed to be readily recognizable. He learned from Japanese woodcuts, but less than from Beardsley, who in his turn had already europeanized the Japanese element. In the preface to a collection of Eckmann's decorative designs (1897[12]) we read: 'Let us gracefully remember Japan whose wonderful art . . . first pointed the right way to us.' But, this is the continuation: 'Only England who knew how to digest the riches of new inspiration and merge them with inborn national qualities, could derive real profit from Japan.' This track must now be followed.

Composition and style of Beardsley's *Peacock Skirt*, 14, are inconceivable without some knowledge of the woodcuts of Utamaro and other Japanese artists. Asymmetrical placing of weights, the treatment of line, the denial of shadow and perspective—all this comes from Japan. But here again direct stimulus meets indirect. For Beardsley presupposes the earlier assimilation and interpretation of Japan by Whistler. He knew Whistler's Peacock Room,[13] and the motif of peacocks, its tail-feathers, its scaly breast-pattern, recur in the *Peacock Skirt*, 15. The ambivalence of ground and pattern also, to which, as a typical Art Nouveau motif, reference has been made before, occurs in Whistler as well as Beardsley. Salome for instance, is drawn precisely black on white, but the wide hem of her kimono reverses the two colours, and in Whistler's painted walls one finds time and again an alternation of gold drawing on blue ground and blue drawing on gold ground.[14] In Japanese woodcuts, it is known, black contours on white with surfaces of one homogeneous colour frequently show the decorative motifs of textiles spaced out in white so that they appear pattern on a coloured ground. Whistler's sketch of peacock panels for the Peacock Room, 13, has entirely un-European compositions of high decorative effectiveness with the remarkable innovation of whole areas of solid black set against the fine line work. This was further developed by Beardsley with an uncanny tight-rope brilliance.[15] Even Beardsley's famous manner of drawing in innumerable small dots comes from Whistler. One should, for instance, compare the concentric curves and scales of dotted lines in the peacock's fan behind Salome's back with the walls and dado of the Peacock Room.

Whistler's admiration for the art and decoration of Japan is, of course, reflected already in the mid-'sixties in his *Princesse du pays de la porcelaine*, the *Longe Leyzen* and the *Golden Screen*. But even where the subject matter is quite independent of Japan, the influence is intense. In the *Nocturne in Blue and Silver—Old Battersea Bridge*, 16, for instance, the relation to Hiroshige's bridges is much less relevant than the general Japanism in the flatness, the absence of modelling, the asymmetrical composition, the ornamental significance, the rigid selectivity, and the strange grace of silhouette.

One more characteristic detail of *Battersea Bridge* must here be pointed out: the care taken by Whistler over its frame. With few exceptions, which will be referred to later, artists of the nineteenth century felt too sovereign in their art to take an interest in frames. In Art Nouveau the frame, designed specially for a painting, and also frames and borders round book-pages, are of great aesthetic importance. Following Rossetti, Whistler devised simple, flat, straight-profiled gold frames and sometimes painted on them repeat patterns in the principal colours of the picture. In *Battersea Bridge* it is a Japanese ornament that surrounds a composition of such Japanese impact. In the Peacock Room, Whistler went further. He planned the whole room, colour as well as ornament, as one expanded frame for the *Princesse du Pays de la Porcelaine*, even at the expense of covering with paint the existing, very costly Spanish leather wall-covering and of cutting off the border of a Persian carpet because its colour would not suit the room.[16] At the bottom of all this is the conviction of the unity of painting and frame and—in a wider sense—of a whole room. This concept was to be a basic rule for the young artists of about 1900. Whistler ate from blue and white china,[17] his table linen was embroidered with japanizing butterflies,[18] and he signed his paintings with the butterfly and allowed it to flutter freely across the pages of his books. He had Japanese mats on the floors of his rooms, the spiral stair of his White House had—again on a Japanese precedent[19]—a gilt wall-paper.[20] But, just as in the case of his later pictures, Whistler did not only take over ready-made accessories and motifs, he let himself be inspired by the attitude that had created them. In complete contrast to the pompous taste of his time—and a certain luxuriance which one cannot overlook in the Peacock Room—his own private rooms were almost empty, with walls painted white or yellow, and a few pictures and pieces of old furniture asymmetrically arranged and every now and then re-arranged.[21] The backgrounds of many of his portraits illustrate his ideas on furnishing. They anticipate the amor vacui, the sophisticated simplicity which was going to be presented so emphatically by Voysey and Mackintosh about 1900—side by side with their ornamental innovations and in stimulating contrast to them.

Whistler was not the only artist in England to be inspired by Japan. The relation between the two countries had, in fact, deeper roots than in any other European country, thanks to an inborn English trend towards the flat, linear, light, unstable, decorative. Whistler and Japan is a more familiar subject than Rossetti and Japan. But at the same time as Whistler painted his *Princesse* Rossetti painted *The Beloved* (1865), 17, one of his luxuriant female figures, and painted her in a rich dress embroidered with bamboo-leaves. Moreover, this fair English bride of the Song of Solomon carries on her head the most fantastic Chinese coiffure with bits of gold and of red enamel. Rossetti, already at the beginning of the 'sixties, collected blue and white china, and Japanese woodcuts. Indeed, in the same year, that is years before Whistler or Morris began to take an interest in the art of the book, Rossetti designed a binding for Swinburne's *Atalanta in Calydon*, and this binding is clearly inspired by Japan, 18. His main reason was no doubt to create a sensational effect, which was what the yet unknown poet needed.[22] The bareness, the arrangement of the ornament close to the edges, and the ornament itself—disks and overlapping disks—are borrowed from Japanese lacquer, as are also the two feathers spreading in opposite directions.[23] But Rossetti's genius contributed something new. He combined Japanese with Greek references; for the palmette in the disk at the right-hand bottom

[6] Albert E. Gallatin, *Aubrey Beardsley*, Catalogue of Drawings and Bibliography, London, 1945, p. 3.

[7] Aylmer Vallance, *Reproductions of eleven designs omitted from the first edition of Le Morte d'Arthur*, London, 1927, pp. 14-15: 'The period when Beardsley took in hand the illustration of the "Morte" was that also in which William Morris, in collaboration with his friend, Burne-Jones, was issuing the superb productions of the Kelmscott Press. Beardsley was, of course, acquainted with their work, and was inevitably drawn to it. . . . A certain number of the earlier "Morte" drawings, though in nowise copies, were yet so obviously influenced by Kelmscott Press designs as to arouse the indignation of William Morris, when some specimens of Beardsley's illustrations were shown to him.'

[8] Otto Eckmann, A. V. Beardsley, in *Die Kunst*, Berlin, 1 Juli, 1899.

[9] George Moore, *Modern Painting*, new edition, London, 1898, p. 20.

[10] Oscar Wilde, The Decay of Lying; *Complete Works*, New York, 1916, Prose, p. 32-33: 'We have all seen in our own day in England how a certain curious and fascinating type of beauty, invented and emphasised by two imaginative painters, has so influenced Life that whenever one goes to a private view or to an artistic salon one sees, here the mystic eyes of Rossetti's dream, the long ivory throat, the strange square-cut jaw, the loosened shadowy hair that he so ardently loved, there the sweet maidenhood of "The Golden Stair".'

[11] Roger Dévigne, La Lettre et le décor du livre pendant la période 1880-1905, in *Arts et Métiers Graphiques*, Paris, vol. LIV, 1936 (with illustrations).

[12] Otto Eckmann, *Neue Formen*, Berlin (1897), Preface by Aem. Fendler.

[13] *The Uncollected Work of Aubrey Beardsley*, introduced by Lewis Hind, London, 1925. Plate 56 has in Beardsley's hand the words: 'Sketch from a letter . . . after visiting Whistler's Peacock Room, 1891.'

[14] Freer Art Gallery Publication, 4024, *The Whistler Peacock Room*, Washington, 1951, p. 6.

[15] A. W. King, *A Beardsley Lecture*, London, 1924, p. 12: 'His letter of 9th December, 1892, in which he tells how he struck out an entirely new method of drawing—fantastic impressions treated in the finest possible outline with patches of "black blots".'

[16] *The Peacock Room . . . By Whistler . . .* Exhibited at Messrs. Obach's Galleries, London, 1904, preface.

[17] E. R. and J. Pennell, *The Life of James McNeill Whistler*, London, 1908, Vol. I, p. 189.

[18] J. and E. R. Pennell, Whistler as Decorator, in *The Century Magazine*, New York, Vol. LXXXIII, 1912, p. 506.

[19] Julius Brinckmann, *Kunst und Kunsthandwerk in Japan*, Berlin, 1889, p. 42.

[20] E. R. and J. Pennell, *The Life of James McNeill Whistler*, London, 1908, Vol. I, p. 174: 'He was decorating the staircase; it was to have a dado of gold, and it was all done in gold leaf, and laid on by himself.'

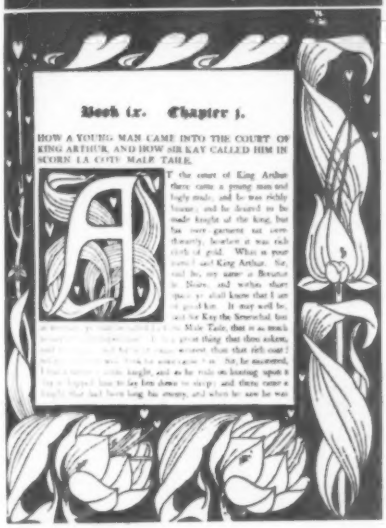
[21] J. and E. R. Pennell, Whistler as Decorator, in *The Century Magazine*, New York, Vol. LXXXIII, 1912, p. 503-504.

[22] Sir Edmund Gosse, *The Life of Swinburne*, London, 1917, p. 107.

[23] It is doubtful whether the Swinburne binding had any immediate effect on others. But in 1881 Rossetti designed for the first edition of his own *Ballads* and *Sonnets* a binding developed on exactly the same principles of spacing and placing, though with rectangular instead of circular forms and without direct Japanese borrowings. The flowers indeed seem more of the Morris than of the Whistler type—another example of how the strands contributing to Art Nouveau intertwine.
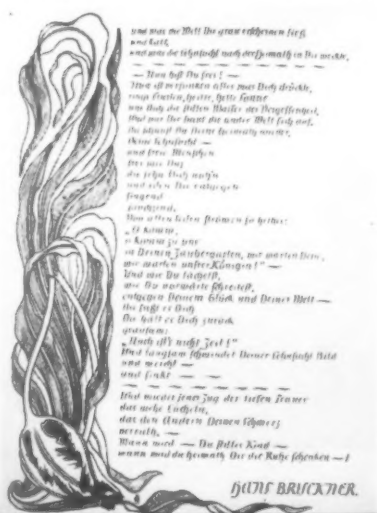


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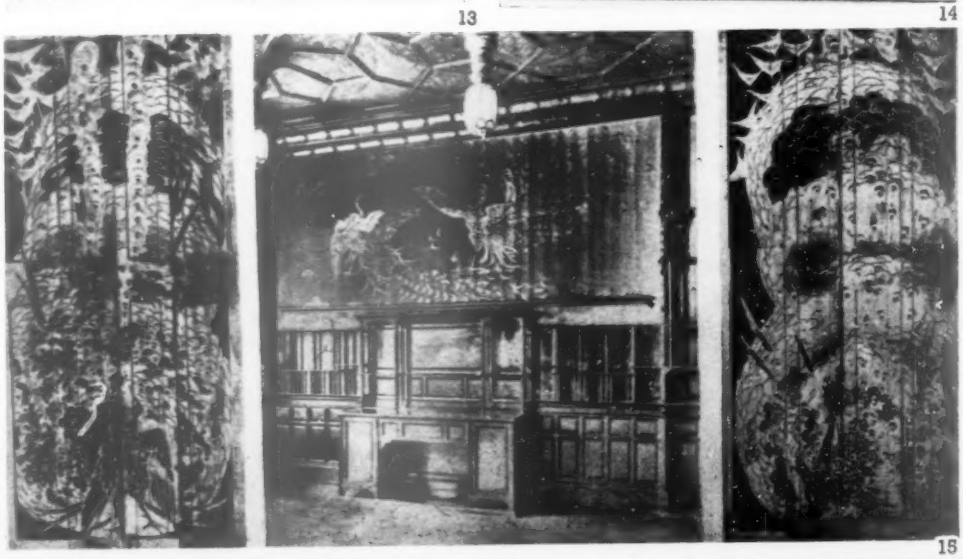




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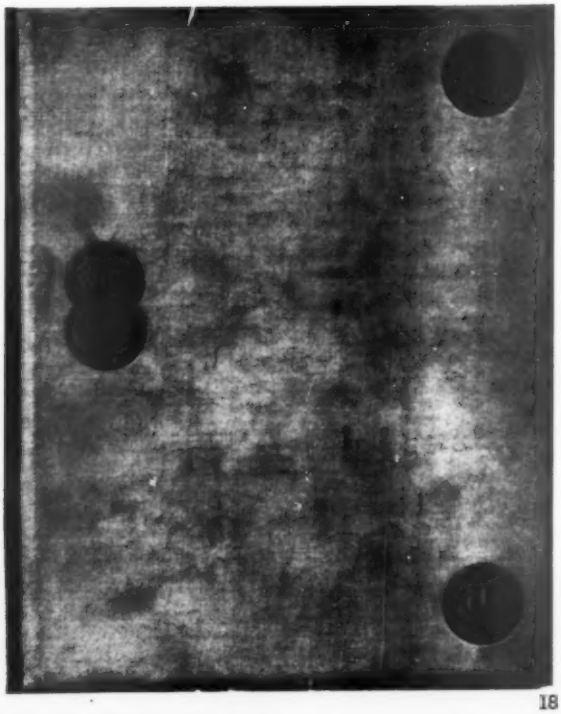
The sources of Eckmann's book decoration, 9, 10, *can be traced to Beardsley,* 8, *and thus to Morris,* 7, *but another source of Beardsley's design and ornament,* 14, *is seen in English painters: Rossetti's* Ecce Ancilla *of* 1850 *and a telling detail from* Fazio's Mistress *of* 1863, 11 *and* 12, *and Whistler's scheme for the Peacock Room,* 13 *and* 15.



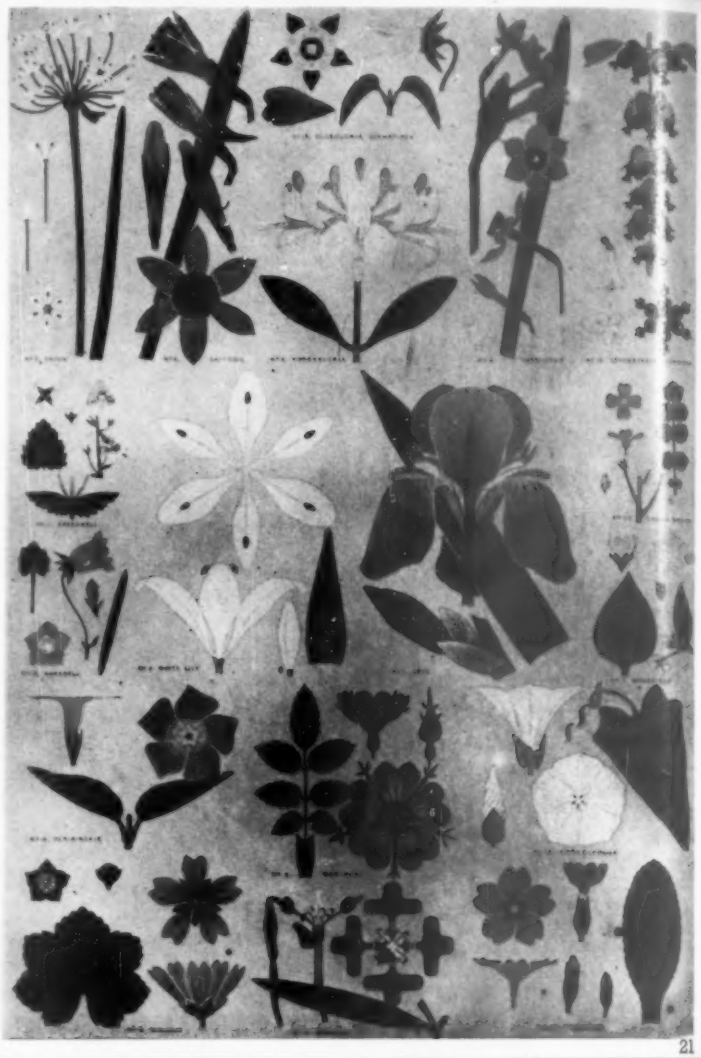
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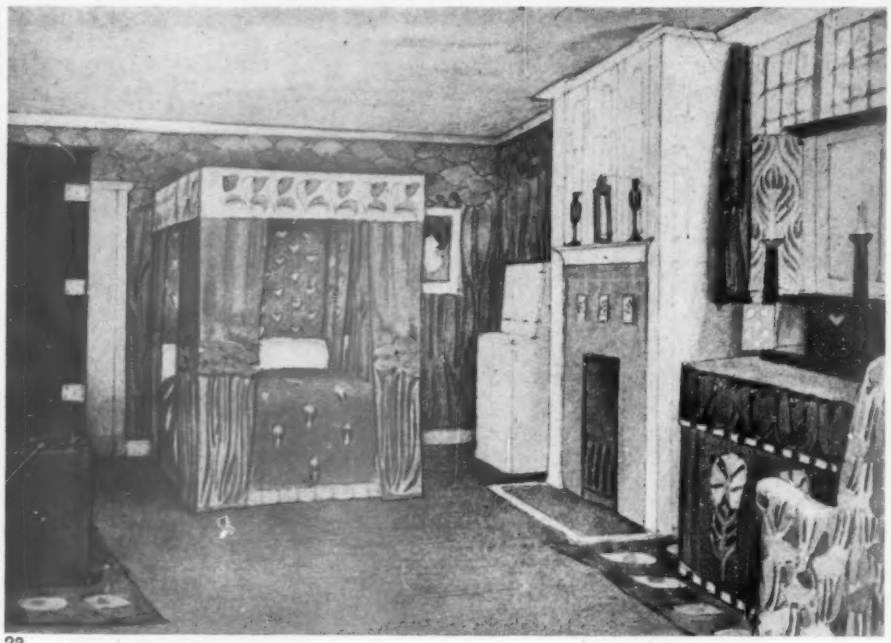
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Whistler's contribution to Art Nouveau *lay in his passion for Japanese art, exemplified by his* Battersea Bridge, 16. *This passion was shared by Rossetti; note the bamboo pattern on the dress of the* Beloved (1863), 17, *and the book-cover (also* 1865), 18. *These, and other English decorative experiments such as* 2, *on p.* 108, *are much modified before they appear in Continental work; stained glass by Van der Velde,* 19; *staircase by Victor Horta,* 20. *A certain consistency may be seen in English decorative work, from the formalized flowers from Owen Jones's Grammar of Ornament,* 21, *through Rossetti,* 22, *to Baillie Scott,* 23, *at the end of the century, and taking in such designers as those on the frontispiece to this article and Christopher Dresser,* 24, *on the way. That Rossetti was thinking in terms of design is confirmed by his sketch of a wallpaper,* 25, *from a letter written as early as* 1861.



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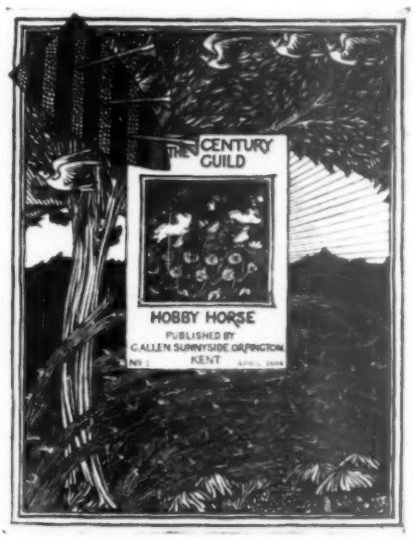


28



29

An essential link between Arts and Crafts *and* Art Nouveau *is provided by A. H. Mackmurdo, whose chair,* 26, *decorative title-page,* 27, *and wallpaper,* 28, *were all designed in the eighties. His* Century Guild, *for which* 29, *is the sign, had among its members Selwyn Image, who designed* 30, *in* 1884. *Close to the Century Guild were also Heywood Sumner, designer of* 31, *and the wholly* Art Nouveau, 33 (*of* 1888), *and Charles Ricketts,* 32 (*of* 1891).



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corner is familiar from fifth-century vases. This surprising juxtaposition was much imitated. It can be found everywhere on the road towards Art Nouveau.

In many of Whistler's pictures, especially in *Symphony in White, No. IV* or *The Three Girls* (between 1876 and 1879) and also in the design for a mosaic girls appear of Greek type and with hair à la greque draped in chitons and standing in Greek attitudes, girls who at the same time hold Japanese sunshades and fans, and stand on Japanese mats next to almond trees or cherry branches. The very end of the *Ten O'Clock Lecture* (1885) is the well-considered statement: 'The story of the beautiful is already complete—hewn in the marbles of the Parthenon—and broidered, with the birds, upon the fan of Hokusai—at the foot of Fusi-Yama.'[24]

It is known that in the 'seventies the architect of Whistler's White House, Edward Godwin, designed 'Anglo-Japanese furniture'[25] as well as Greek 'chairs.'[26] And even in the early 'sixties Godwin hung on the walls of his simply furnished rooms Japanese woodcuts, dressed his wife and daughters in kimonos,[27] and displayed at the same time a cast of the Venus de Milo.[28]

Walter Crane, who tells us himself how much, from 1865 onwards, he learnt from Japan for his children's books,[29] also proceeded to a syncretism of Japan and Greece—in such books as *Beauty and the Beast* and *Baby's Own Æsop*—both in the objects illustrated and the treatment of illustrations and ornament. And since in addition Crane was entirely a follower of the Pre-Raphaelites, of Rossetti and Burne-Jones, there was every probability of Art Nouveau-like motifs to emerge from his works. Such motifs, indeed, occur everywhere. In the end-papers to *Baby's Own Æsop* (1887), 5, Crane spreads on to a plane surface the ivy trails, the alternating wavy tendrils from the necks of Attic sixth and fifth century vases, arranges them in opposition to each other and places them behind a fragile trellis reminiscent of the Far East. Thus, by tracing hidden affinities between distant regions of art and by combining them, something convincingly new is created which enchants by freshness and dainty simplicity.

From yet another point of view also Whistler and Rossetti must be regarded as the forerunners of Art Nouveau. Together with Morris, and Godwin, and a little before Crane, they turned their mind towards the things of everyday use so as to infuse beauty into all that surrounds us and to create a universal harmony in the whole framework of our lives. It need hardly be stressed that this very attitude became that of Art Nouveau and that such a leading master of Art Nouveau as Henri van de Velde began as a painter and then turned to architecture, furniture, lighting, cutlery, book art, embroidery, and even the art of dress design.

The urgent need for artists to pay attention to design was, indeed, recognized as early as 1851. The role of Henry Cole and his friends in these attempts at reform is well known by now.[30] It led to the foundation of the South Kensington Museum as a kind of educational display of the best of decorative art from all ages and nations and a reconsideration of Schools of Design to secure systematic training for those who were to work for industry. 'The schools were primarily intended as schools of design, where the sons and the daughters of the people would be taught how to design wallpapers,' wrote George Moore not without irony.[31] An example of the style taught in the school comes from an unexpected quarter, a design done in 1864 by Kate Greenaway then aged sixteen, 2. It is remarkable how independent of styles of the past this design for a tile is, and it is also remarkable that it was given a prize.[32] Blooms, flowers and tendrils in very generalized forms are concentrically and symmetrically arranged, entirely in one plane. The treatment confirms what George Moore reports on teaching in the 'sixties: 'The harder and finer the outline, the more the drawing looked like a problem in a book of Euclid, the more the examiner was pleased.'[33] Apart from some allusions to Greek palmettes in the middle of the design, the ornament is free from historical precedent, and thus in accordance with demands stated in that classic the *Grammar of Ornament* by Cole's friend Owen Jones: 'All ornament should be based upon a geometrical construction,'[34] 'Junctions of curved lines with curved lines or of curved lines with straight lines should be tangential to each other,'[35] and 'Colour is used to distinguish objects or parts of objects one from another.'[36] Owen Jones's *Grammar* came out in 1856. It is by far the most important mid-nineteenth-century book on decorative art. It was known to, and used by, Morris (who did not begin publicly to formulate his own views on design until the 'seventies) and appeared in a new edition as late as 1910. The *Grammar* was used extensively at South Kensington, and Kate Greenaway followed its precepts without much show of imagination. But the result is curiously near Art Nouveau.

A comparison with a circular composition by van de Velde, a work of mature Art Nouveau (1901) shows up similarities as well as differences, 19. Van de Velde is richer, more flowing, more organic, more vigorous and more delicate. Forms like the wings of butterflies or the petals of flowers seem to pass through metamorphoses from the organic to the crystalline. Glass with its colour and transparency is an ideal medium, and, what is more, the design is clearly conceived in glass from the beginning. The technically necessary leading gives forceful expression to the contours. All the same, with all its hardness, for 1864, Kate Greenaway's design is remarkably progressive: flat, linear, and without any intention of an imitation of reality. Its dependence on Owen Jones and the *Grammar* is patent. Jones never tires of recommending flatness in decoration, and it is partly for that reason that he illustrates so many oriental examples—Moorish, Persian, Indian, Chinese—in harmony, incidentally, with what Cole had recognized at the 1851 Exhibition: 'It was from the East that the most impressive lesson was to be learned.'[37] Egyptian ornament also receives special praise, Greek decoration is preferred to Roman, prehistoric ornament is shown and ornament from Celtic illumination, but the academic art of the West, from the Gothic to the Baroque Age, is given comparatively little space. It is the principal aim of the book to demonstrate 'that in the best periods of art all ornament was based rather upon an observation of the principles which regulate the arrangement of form in nature than on an attempt to imitate the actual forms of those works'.[38] The last chapter is dedicated to the hope 'that the future progress of Ornamental Art may be best secured by engrafting on the experience of the past the knowledge we may obtain by a return to Nature for fresh inspiration.'[39] As suggestions of what might be done Jones offers plates with designs of his own, 1. 'The single example of the chestnut leaf, contains the whole of the laws which are to be found in Nature.'[40] But the plate does not only illustrate the laws explained in the text, it also, by means of composition, by the flat, simplified outline treatment of the fan-shaped leaves, their asymmetry and tense rhythms, clearly points forward towards a development at the end of which stands van de Velde.

A plate contributed to the *Grammar*, 24, by another reformer of design in the third quarter of the century, Dr. Christopher Dresser,[41] is meant to demonstrate 'that the basis of all form is geometry.'[42] Although here, as in the plates designed by Jones, there is nothing to be seen but flowers and leaves, the principle stands that 'Flowers or other natural objects should not be used as ornaments, but conventional representations founded upon them.'[43]

In other plates of the *Grammar* this reduction to essentials gives a scientific character, a flavour of the textbook to the illustrations, 21. There is no sensuousness in any of the plates, no emotion, and so those who were looking for these qualities in design had to go somewhere else to find them, and so we are back with Whistler and with Rossetti. It is remarkable how similar to the designs, say, of Baillie Scott the accessories are in a series of water-colours which Rossetti painted between the date of the publication of the *Grammar* and the mid-'sixties, the dresses and curtains, the furniture and sometimes even neutral backgrounds, covered with designs of small flowers, circles or hearts,[44] all deserve close attention, 22 and 23. The affinities comprise structural principles as well as the individual motifs. The flowers taller than the height of a man which appear on Baillie Scott's walls correspond to a remarkable wallpaper design by Rossetti which was done for his own room as early as 1861, 25, and which consists of slender trunks of young trees growing up to the ceiling.[45] Similarly, the straight-sided box-like pieces of furniture and the flatly stretched-out pieces of cloth which were so dear to the generation of 1900 that *Punch* incorporated them into a cartoon against the Arts and Crafts and apparently against Baillie Scott[46] make their first appearance in Rossetti's early paintings such as *Ancilla Domini*, 11, and *Dante drawing an Angel* (1853).

In Baillie Scott, needless to say, all reminiscences of the Victorian Era are gone. Carpets and wallpaper are really flat surfaces, horizontal planes are left vacant, the room as a whole is simple, light and clear. But he is romantic all the same; for the carpet is green as lawn, the ceiling sky-blue, and with the many flowers on the vertical planes the interior becomes a spring garden and affords 'a quiet and poetical refuge from the bustle of the world.'[47] Care for cultivated nature and care for cultivated interiors were felt on the Continent to be characteristically English.[48] Typically English also is the way in which the luxuriance and undulating movement of the flowers is caught up by the straight severity of the shapes of room and furniture. It would not be possible in England for a whole room to start undulating like Horta's famous staircase in the rue de Turin, 20. This English moderation and neutralization of movement, which is as essential for an understanding of Voysey, Ashbee and Mackintosh as it is of Baillie Scott, began to exert a great influence on the Continent after 1900—on Germany towards the end of Art Nouveau,[49] and on Vienna.[50] Here are the foundations of the *Neue Sachlichkeit* which set in about 1902.

But while the British influence on the final straightening of the convolutions of Art Nouveau has at least in recent years been recognized in more than one place, England has never as yet been established as the source of these very convolutions which from their Belgian forms of 1893 spread to France and Germany to determine the early and high phases of the style. In 1881, twelve years before the so-called beginning of Art Nouveau, Arthur H. Mackmurdo designed a chair illustrated in *The Studio* in 1899, 26. In its general form it resumes, though with Victorian modifications, the traditions of Chippendale, but the fretwork of the back, by no means developed out of constructional considerations, is to a surprising degree pattern and prototype of Art Nouveau.

Out of an undulating base, in a daring fling, an asymmetrical shape of no structural meaning writhes up, opening out fan-wise and sending up towards the top-rail parallel flame-like rays. This wavy fan is re-echoed by a second system of lines crossing it diagonally. It grows from the same trunk and runs in a magnificent S curve all across the available space, ending above in flowers and leaf-tips or turning back towards its point of issue. All this takes place entirely in

[24] James McNeill Whistler, *Mr. Whistler's Ten O'clock*, London, 1888, p. 29.

[25] *Art Furniture from Designs by E. W. Godwin . . . with Hints and Suggestions . . . by William Watt*, London, 1877, pl. 8; see also Nikolaus Pevsner, Art Furniture, in THE ARCHITECTURAL REVIEW, London, Vol. CXI, pp. 43-47.

[26] Dudley Harbron, *The Conscious Stone*, London, 1949, plate facing page 143.

[27] Harbron, op. cit., pp. 33, 75, 82.

[28] *Ibid.*, p. 95.

[29] P. G. Konody, *The Art of Walter Crane*, London, 1902, pp. 24-26; see also Walter Crane, *Of the Decorative Illustration of Books Old and New*, London, 1896, pp. 161-162.

[30] See Siegfried Giedion, *Mechanisation Takes Command*, New York, 1948, pp. 351-353; see also: Nikolaus Pevsner, *High Victorian Design*, London, 1951.

[31] George Moore, *Modern Painting*, new edition, London, 1898, p. 63.

[32] M. H. Spielmann and G. S. Layard, *Kate Greenaway*, London, 1905, pp. 42-44, plates facing p. 42 and 44.

[33] George Moore, op. cit., p. 65.

[34] Owen Jones, *The Grammar of Ornament*, London, 1856, Preface, p. 4, Proposition 8.

[35] *Ibid.*, Proposition 12.

[36] *Ibid.*, Proposition 14.

[37] S. Giedion, *op. cit.*, p. 352.

[38] O. Jones, *op. cit.*, Chapter XX, p. 2.

[39] *Ibid.*, Preface, p. 2.

[40] *Ibid.*, Chapter XX, p. 4.

[41] See also: Christopher Dresser, *Principles of Decorative Design*, London (1873).

[42] O. Jones, *op. cit.*, Chapter XX, p. 4.

[43] *Ibid.*, Preface, p. 4, Proposition 13.

[44] For example '*Roman de la Rose*,' water-colour, 1864, Tate Gallery, 22.

[45] George Birbeck Hill, *Letters of Rossetti to Allingham*, London, 1897, plate facing page 251.

[46] *Punch, or the London Charivari*, Vol. CXXIV, 1903, March 11, p. 179: Cartoon by R. C. Carter of a typical Baillie Scott room with the caption: 'The latest style of room decoration. The home made beautiful. According to the "Arts and Crafts".'

[47] Hermann Muthesius, *Meister der Innenkunst I: Baillie Scott*, Darmstadt (1901), Preface.

[48] E. von Bodenhausen, Englische Kunst im Hause, in *Pan*, Vol. II, 1896, p. 329.

[49] Baillie Scott in 1898 designed interiors and furniture for the palace of the Grand Duke of Hesse at Darmstadt, ill. *Studio*, Vol. XIV, 1898, pp. 91-96, and *Studio*, Vol. XVI, 1899, pp. 107-112. Moreover, Baillie Scott's designs for 'Das Haus eines Kunstfreundes' were given first prize in a competition held by the *Zeitschrift für Innendekoration*, at Darmstadt, in 1901. They were published by H. Muthesius in a sumptuous volume. See also note 47.

[50] Thomas Howarth, *Charles Rennie Mackintosh and the Modern Movement*, London, 1952, Chapter VII, Mackintosh in Europe, pp. 148-169.

one plane. The individual strands have the organic life, the lava-like flow and sudden, wilful doubling-back which are the hallmark of mature Art Nouveau. Two years later Mackmurdo used very much the same forms and motifs in the title-page to his book on Wren's City Churches, a masterly design which has become known through Professor Pevsner's illustration in his *Pioneers*, 27.[51]

Now Owen Jones, in 1856, had written: 'Beauty of form is produced by lines growing out one from the other in gradual undulations,'[52] and 'In surface decoration all lines should flow out of a parent stem. Every ornament, however distant, should be traced to its branch and root.'[53] But remarkable as these prophetic words are, they do not sufficiently explain the creation of such ornament by Mackmurdo. Mackmurdo's source remains the great mystery of the prehistoric stage of Art Nouveau. It can, I think, be solved. But that must be left to another occasion.[54] Meanwhile, during the very years in which Mackmurdo carried on his astonishing innovations, similar forms also began to appear in other places in England as well. There is, for instance, Heywood Sumner, who was indeed close to Mackmurdo and the Century Guild.[55] As early as 1882 he designed a binding for the Fairy Opera *Cinderella*, 31, with flame-like, Art-Nouveau-like flowers, though still without the unintermittent flows of lines. But his binding of Fouqué's *Undine*, 33, which dates from 1888, is wholly Art Nouveau in every respect—five years before any sign on the Continent. It is no accident that a romantic fairy-tale was the occasion for this undulating pattern, that the ambiguous nature of the maid with the telling name is represented by equally telling forms. The decoration here is literally what Oscar Wilde wanted it to be: 'surface and symbol.' It would, by the way, be illuminating altogether to look at the earliest creations of Art Nouveau with an eye to contemporary symbolism in literature.

Novalis has a passage about the 'Kunst, auf eine angenehme Art zu befremden, einen Gegenstand fremd zu machen, und doch bekannt und anziehend'[56]—to make things look strange and yet familiar and attractive. This romantic tendency might well be used as the motto over Charles Rickett's decorations for the works of Oscar Wilde. The binding of the *House of Pomegranates* of 1891, 32, combines highest formal qualities with a highly fantastic mood. Tapestry-like, the branches of the pomegranate tree reach out into all four corners, and the crocus flowers are spread evenly like the pattern on a wallpaper. But not quite; for everywhere there are the slight deviations of live forms from an ornamental scheme, and the peacock and the fountain take us back into reality and book illustration. However, since everything is translated into two-dimensional drawing, the mind has yet to progress from seeing to the interpreting of symbols—just as in reading script. And, looking at it from the other side, the lettering with its melodious curves and deliberate waywardness does everything to appear alive and meet halfway the vegetable forms around.[57]

So here, in an exceptionally attractive way, that accordance of lettering, illustration and ornament is achieved which is a criterion of the art of the book—as well as the art of the interior—about 1900. It is this accordance the lack of which Wilde regretted in 1889: 'At present, there is a discord between our pictorial illustrations and our unpictorial type. The former are too essentially imitative in character and often disturb the page instead of decorating it.[58] And 'it was Wilde, who had learnt concern for printing and binding from Whistler, who first suggested to Ricketts the idea of designing books.'[59] Ricketts's aristocratic art in which sophistication and a child-like faith in the fairy-tale seem to merge represents a very personal variety of Art Nouveau, far distant of the popular, not infrequently vulgar, varieties that carried the day and are represented by Horta's staircase.

The problems of the immediate antecedents of Horta whose Art Nouveau so far seemed to appear ready all at once in 1893, are yet unsolved. Would it be presumptuous to suggest that they are to be found in English book decoration? The close relations of Belgian artists to England in the decisive years before 1893 have been commented on by van de Velde: 'The discovery of the English revival of craft was made by A. W. Finch, a painter of half-English descent who later became a potter. He bought a few things which strongly impressed his friends. That was about 1891. Shortly after, Serrurier-Bovy, in Liége, made the first pieces of furniture under English influence. Very soon after the foreign style was translated into something Belgian.'[60] In the exhibition of the Société des Vingt at Brussels in 1892 for the first time objects of decorative art appeared side by side with progressive paintings. They included books illustrated and decorated by Herbert Horne and Selwyn Image,[61] friends of Mackmurdo and collaborators on the Century Guild and the Hobby Horse. Even before then, as early as 1880, a German and a French edition of Kate Greenaway's *Under the Window* had come out and sold over 100,000 copies.[62] Also in the early 'eighties the Kunstgewerbemuseum at Hamburg had acquired picture-books by Crane. Crane himself wrote in 1896: 'The revival in England of decorative art of all kinds . . . culminating as it appears to be doing in book design, has not escaped the eyes of observant and sympathetic artists and writers on the Continent. The work of English artists of this kind has been exhibited in Germany, in Holland, in Belgium and France, and has met with remarkable appreciation and sympathy. In Belgium particularly . . . the work of the newer school of English designers has awakened the greatest interest.'[63]

Often before small works of art had stimulated large ones. One need only think of the effects of Greek and Roman cameos and coins on Renaissance and neo-classical sculpture, or of Dürer's woodcuts on Italian painters. About 1900 buildings with Art Nouveau façades were nicknamed built book-pages, and Crane conversely speaks of the ideal of the book as a house, with the frontispiece as the façade, and with rooms and a garden.[64]

It was truly prophetic when in 1856 Owen Jones had written 'that a new style of ornament may be produced independently of a new style of architecture; and moreover, that it would be one of the readiest means of arriving at a new style.'[65]

That is precisely what did happen. The spatial forms of Horta's staircase correspond to function and material—but they might just as well be quite different. The 'style' and the decoration are obviously not developed out of the demands of iron. On the contrary, iron adapts itself to their demands, which flow from quite different sources. It was the style and the decoration of Horta's house that caused such a sensation and established 1893 as the birth year of Art Nouveau—the year that also saw the appearance of *The Studio* and of those Beardsley drawings to the *Morte d'Arthur* with which this article began.

[51] First published by Nikolaus Pevsner, *A. H. Mackmurdo, a Pioneer Designer*, in THE ARCHITECTURAL REVIEW, London, Vol. 83, 1938, p. 142.

[52] O. Jones, *op. cit.*, Preface, p. 4, Proposition 6.

[53] *Ibid.*, Preface, p. 4, Proposition 11.

[54] An essay on William Blake and Art Nouveau will be published in THE ARCHITECTURAL REVIEW shortly.

[55] Catalogue of the Victorian and Edwardian Exhibition, pp. 69-70.

[56] Novalis: *Briefe und Werke*, Berlin, 1943, Vol. 3, p. 623.

[57] For the whole conception, the lettering and many details of this binding, compare Rossetti's title page to Christina Rossetti: *Goblin Market*, 1862. Also, Sargent said: 'Nothing that Ricketts ever did could have been done without Rossetti' (*see* John Rothenstein: *The Artists of the 1890's*, London, 1928, p. 186).

[58] Oscar Wilde, Some Literary Notes, in *The Woman's World*, January, 1889.

[59] J. Rothenstein, *op. cit.*, p. 183.

[60] Nikolaus Pevsner, *Pioneers of Modern Design*, New York, pp. 58-59.

[61] *Ibid.*, p. 67.

[62] M. H. Spielmann and G. S. Layard, *op. cit.*, p. 55.

[63] Walter Crane, *Of the Decorative Illustration of Books Old and New*, London, 1896, p. 228.

[64] *Ibid.*, p. 194.

[65] O. Jones, *op. cit.*, Chapter XX, pp. 2-3.

postscript

This paper is a partial publication of the results of a doctoral thesis on which the author is engaged at Tübingen University under Professor W. Boeck. The collecting of material was undertaken in London in 1951 and 1952 under supervision of Professor N. Pevsner, whom the author wishes to thank for much valuable advice and kind help. It was also due to Professor Pevsner's endeavours that Mr. Philip Johnson and Mr. Edgar Kaufmann, Junr., both of New York, contributed substantial sums of money to make the photographing of mostly unpublished objects possible. The author is profoundly grateful to both Mr. Johnson and Mr. Kaufmann.







The living wing of the house from the south-east, with the promenade and boiler house below.

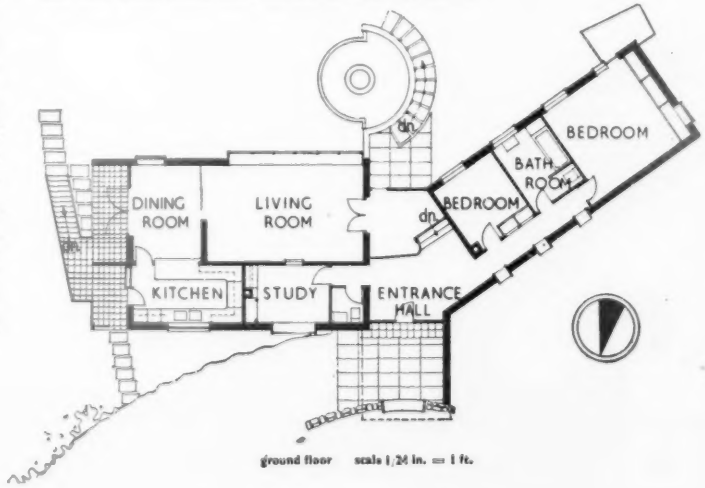
HOUSE AT RENHOLD, NEAR BEDFORD

ARCHITECT: IAN WARWICK

The house is on the bank of the Ouse five miles east of Bedford, reached by a long approach from the north. It is built on the south side of a Saxon mound known as Risinghoe Castle, which screens the house and withholds the two-way river view until the house has been entered. Across the river is an orchard: the building is high enough to overlook it and give a view of the south Bedfordshire hills beyond. Because of the slope a promenade and play space has been provided underneath the main living room with access to the laundry and heating plant. East and west wings are for daytime living and sleeping respectively. The construction is cavity brick walls with inner skin of thermalite blocks, with a roof of ¾ inch asphalt on rafters at 5° pitch, and 2 inch cork insulation. The floors are partly 4 inch concrete on hardcore and partly r.c. columns and patent pre-cast flooring; main rooms are finished with wood blocks, and the bathroom and kitchen are tiled. The external facing is brick and local stone. The heating and hot water come from an automatic oil heater.



site plan



ground floor scale 1/24 in. = 1 ft.

DEPARTMENT STORE AND OFFICE BLOCK IN COVENTRY

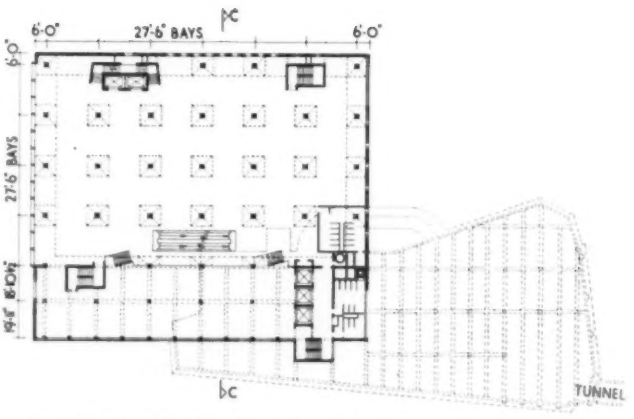
1. Owen Owen Store

ARCHITECTS: ROLF HELLBERG AND MAURICE HARRIS

This store and Broadgate House, below, are the first two large buildings to be completed in the reconstruction of the City Centre, shown in last month's frontispiece, page 4. They face one another across New Broadgate, the island which was laid out as the focus of the new centre in 1948. The site consisted of a square island above ground and the triangular basement of the old store, built in 1937 and destroyed in the blitz. The only area these have in common is a narrow strip along the east side of the block (shown in the plan on the right); an access tunnel leads north out of the basement to a detached loading deck. The basements hold engineering services, receiving and despatch and sales, stock and offices are in the superstructure. The superstructure has five sales floors, two at street level, and a stock building on the east side of equal height, but containing seven floors. The main superstructure contains two forms of construction, flat slab floors supported by mushroom columns in the sales area, and normal beam and slab construction in the stock mezzanines. The Broadgate façade has a large window wall set in a travertine background for this façade. On the east façade continuous bands of windows alternate with orange-red briquettes.

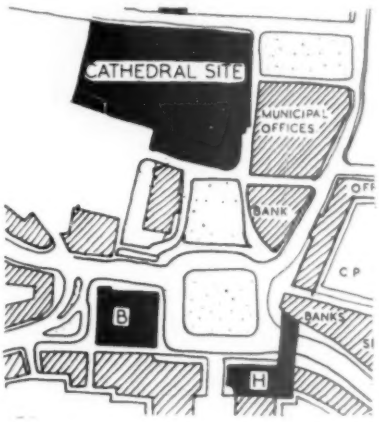


2, the store from the north-east, looking down Trinity Street with Broadgate House at the far end.



Basic structure plan: superstructure solid and basement dotted.

Below, plan for the reconstructed City Centre, showing the relationship between the Owen Owen store (B), *Broadgate House* (H) *and the cathedral site. The island between them is New Broadgate.*



2. Broadgate House

CITY ARCHITECT: D. E. E. GIBSON

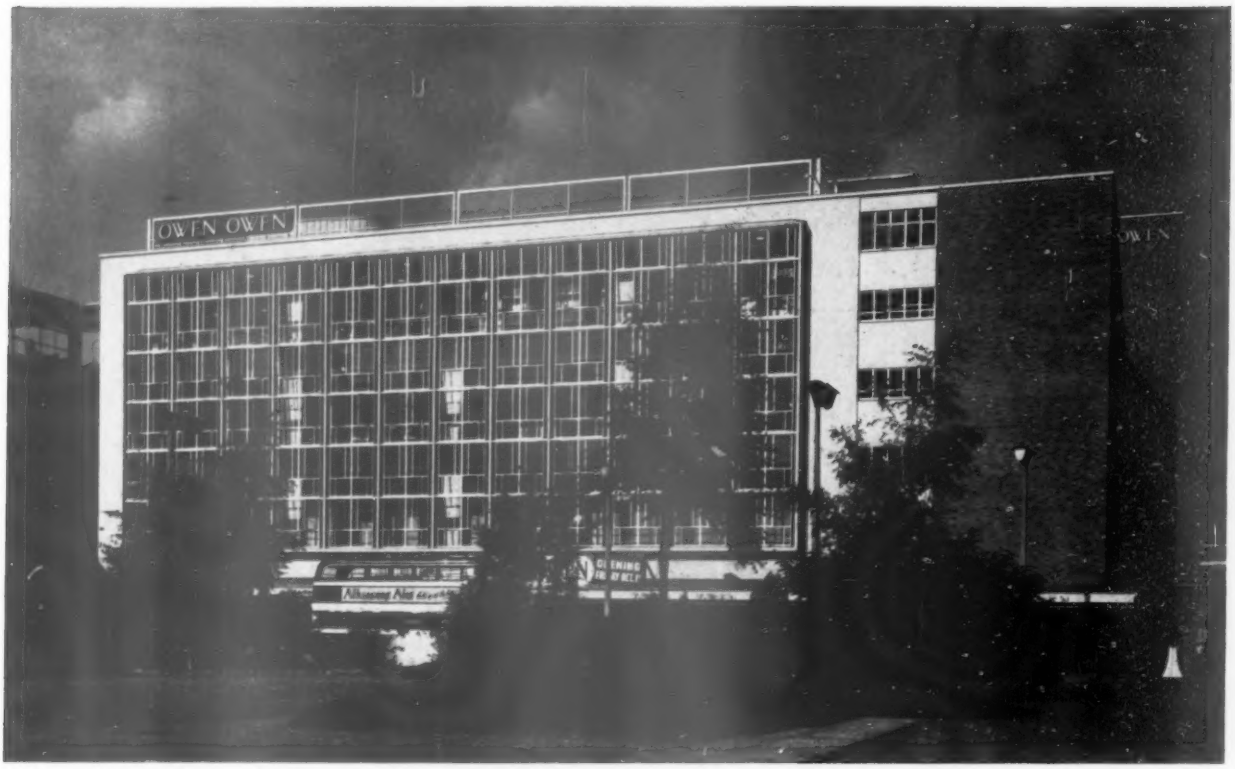
CHIEF ASSISTANT ARCHITECT: FRANK MOATE

Broadgate House is a six-storey block on the west side of New Broadgate at the head of the shopping precinct, continuing into the south side by a bridge over the existing Hertford Street, containing two floors of offices, a restaurant on the second floor and a footbridge. There are two abutments to the bridge, containing staircases and lifts; one of them forms a setting for the old Market Hall clock. The six-storey block has arcaded ground floor shops on both Broadgate and precinct frontages; there is also a first floor shopping terrace to the precinct with access by a light welded steel bridge. The building throughout is framed in reinforced concrete with tanked reinforced concrete retaining walls to the basement and bridge foundations, linking up with the subway which had already been built by the City Engineer. The Hertford Street bridge consists of three deep beams approximately 23 feet deep and 10 inches wide, perforated with window and door openings, forming the external walls and centre partition wall of two floors of offices from which the second floor restaurant is suspended on 3½ inch diameter steel hangers. Arcade columns are faced in Hornton stone with granite plinths, the columns to the east elevation extending from first to fifth floor in Westmorland Green slate with panels under the windows in travertine. The reinforced concrete bridge wall beams are faced in travertine with window openings framed in Westmorland Green slate. On the south side of the bridge there are four panels of sculpture in Doulting stone by Trevor Tennant.



3, looking across New Broadgate to the Hertford Street bridge and the clock: when the hours are struck Lady Godiva appears on the balcony below the clock face, and Peeping Tom emerges from the triangular window.

Department Store and Office Block in Coventry



4, the south front of the Owen Owen store seen across New Broadgate.



5, Broadgate House from the west, looking along the line of the future shopping precinct to the spire of St. Michael's, which is to be preserved when the new cathedral is built.



6, the main entrance hall. 7, below, the frontage to Westminster Bridge Road, with directors' balconies on the fourth floor.

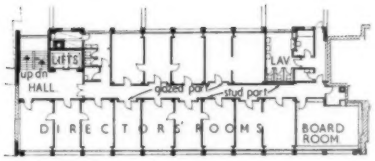
OFFICES IN LAMBETH, LONDON, S.E.1.

ARCHITECT: R. N. WAKELIN OF CAMPBELL-JONES AND SONS

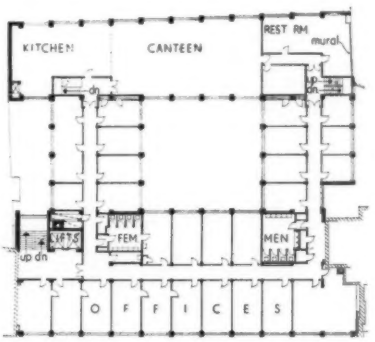
These offices are in Westminster Bridge Road, just east of the main lines running out of Waterloo Station. They house the headquarters of a group of building contractors, including canteen, kitchen, housekeepers' flat and directors' suite. The site is approximately square with vehicle access at the rear, and was arranged around the perimeter in relatively low blocks as load-bearing brick construction was planned; in fact, however, because of an anticipated shortage of bricks a reinforced concrete frame with brick facings was used. The north block facing Westminster Bridge Road is six-storey, and three other blocks are four-storey, connected by corridors running in the centre of each block. On the first floor there are four conference rooms, each divided by sliding-folding doors, which, when opened, allow sufficient space for a small cinema. The central area enclosed is roofed over to form an accounts office on the ground floor. Floors are of prestressed concrete construction, spanning from the external wall beams to the corridor beams. Corridors are of in situ reinforced concrete construction supported on columns on each side and forming rigid central spines throughout the building. The roof of the central area is supported on cranked beams, linked by a reinforced concrete gutter, and columns. The gutter forms a ring beam and the whole structure is independent of the remainder of the building. The panels below the windows are faced with Italian dove-grey marble aggregate, which was polished and given texture by brushing the face while green. At fourth floor level there are railings between columns, forming small balconies outside directors' offices. Internal finishes include walls lined with capriva marble in the entrance hall, panelling of veneered canarium in some directors' offices and the fourth floor corridor, and paint on plaster elsewhere.



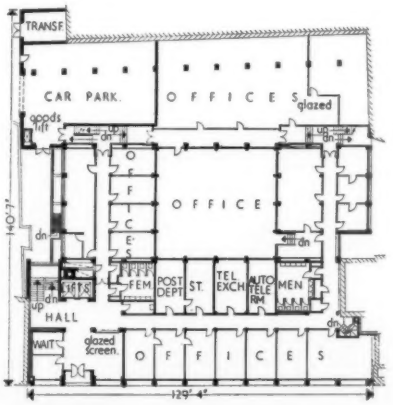
7



fourth floor plan



second floor plan



ground floor plan scale 1/64 in. = 1 ft.

S. Gilead-Gromet

ISRAEL SCRAPBOOK

Israel is an immigrants' country, and the early immigrants at the first quarter of the century were all determined to start a new life in their new-old home. This attitude is reflected also in the building conception, where there appears an almost total rejection of the traditional styles. So the field remained open to the modern movement.

The establishment of the state of Israel in 1948 gave a renewed drive to building. Two major tasks became readily distinguishable. One was to provide homes for the new immigrants, who were pouring now into a country of 750,000 inhabitants at a rate of 200,000 persons a year. (The population was doubled in three years.) The housing problems of the existing population were already acute, and the country was suffering from a permanent shortage of dwellings, and a great scarcity of building materials.

The second task was even greater—planning and replanning of entire areas under the changed conditions and new development requirements. A National Planning Department was set up, manned by a capable group of architects and town-planners. Its task—the preparation of a national master plan—was a heavy one, but it became even more so, as the planning turned into a race against time. Immigrant and transit camps, housing estates and settlements, and industrial centres were planned and built in haste, in order to satisfy the immediate requirements. The results were sometimes a compromise, in which social, economic and aesthetic faults can be noted. But altogether the Planning Department did a fine job in outlining the National Master Plan.

Only a small fraction of the detail planning is done by government or municipal departments, and most of the planning in cities is concentrated in the hands of private groups of planners and architects that run the gamut from a single pair of partners to large co-operative groups. In the various co-operative settlements planning is done by technical offices connected directly with a group of settlements, formed according to type and political party.

The dwellings erected to meet the immediate housing needs of the immigrants were

of low standard, the finish very austere and the habitable area per family very restricted. Flats in these housing estates were rented to needy immigrants at a very low rate. Lately, the attitude of the government has undergone a change and the policy now is to provide decent dwellings at a reasonable price, with government-sponsored planning, and with allocations of restricted building materials. These housing schemes —called Popular Housing—are of good standard and compete well with medium priced dwellings built by private enterprise.

The bulk of the housing enterprises is dealt with by government departments and various semi-public housing companies. Only a small fraction is accomplished by private enterprise, whose work is confined to the major cities, and erected by contractors and financiers, who buy the plot, hire the architect, build and sell the flats.

Though Israel is a small country, it boasts an amazing variety of climatic conditions. The level Coastal Plain (Shfela) has the mild Mediterranean climate, while the near-by hills of Galilee at the north and the Judean hills near Jerusalem are cool and dry. Further east the Jordan depression with its sub-tropical heat, culminates in the Dead Sea region, 400 metres below sea level, where living conditions are especially trying under the intense heat and scarcity of water. The Negev in the south presents a fair example of desert conditions, hot and dry weather and a negligible annual rainfall, though the northern Negev boasts of good agricultural "loess" soil, which can be transformed under irrigation into excellent farming land.

These conditions are reflected in the building and result in open planning with large balconies in Tel-Aviv and Haifa, while in Jerusalem the buildings more resemble their European counterparts. Various solutions are sought in areas of difficult living conditions, but the general trend is to rely on cool breezes and cross ventilation, on roof over-hangs and lately on brise-soleil devices. There is much talk of the Oriental way of building—blank thick walls and the patio plan, but it has not yet gone much further.

Despite the climate and because of restricted means and lack of foreign currency, little is done in the field of insulation. An overwhelming majority of buildings has walls about 8-9 inches thick, in concrete block or bricks, without any insulation whatsoever. The floors are concrete slabs covered with cement tiles. Even the flat r.c. roof—the most intensely sun-heated member of the structure—is insulated by whitewashing only. There are some exceptions, such as luxury hotels built for tourists, a few big central office buildings and private dwellings.

The common type of construction in Israel is reinforced concrete, its use ranging from small bus shelters to large halls and industrial plants; even the non-bearing members of the structure are often poured in concrete despite its poor insulation qualities. Other widely used building materials for walls and partitions are various types of concrete blocks and silicate bricks. One of the handicaps of the Israel building industry is the lack of tradition of the workers employed in construction, and practically no building worker has inherited the craft from his ancestors.

A fact particularly remarked by visiting foreign architects is the restricted use of colour in the buildings, chiefly various shades of beige. One reason for this is that the intensity of light and shade is sufficient in itself to reveal the various building parts and their finishes. Another reason lies in the fact that the usual types of lime paint used here, have a tendency to fade and change in the strong light.

The illustrations that follow give a general picture of post war architecture in Israel in the main centres of population, with a brief look at building in the countryside.

ISRAEL SCRAPBOOK



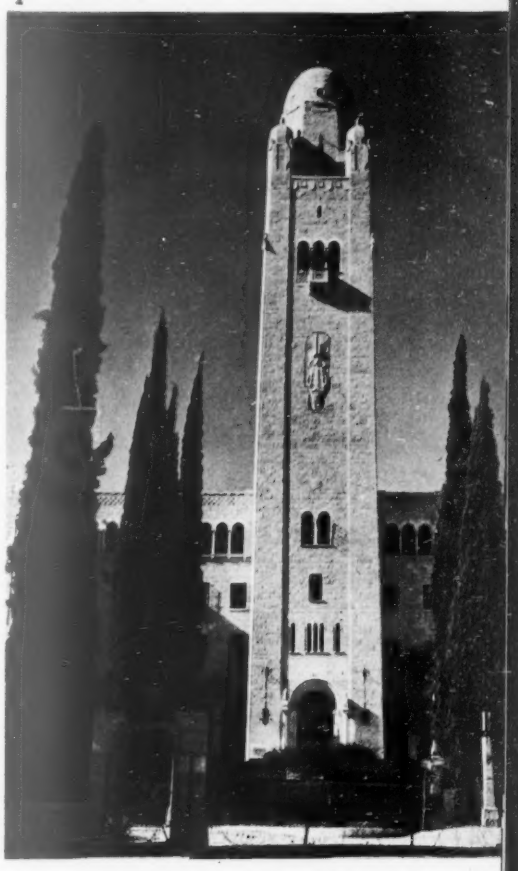
2

Jerusalem, Tel-Aviv and Haifa are the three main cities of Israel. Each of them is distinguished by its definite character and function, as well as by its different physical setting. Jerusalem—the State's capital, university city and religious centre; Tel-Aviv—the metropolis centre of commerce and highly developed social and cultural life; and Haifa—main port and prospective centre of international trade and heavy industry.

jerusalem

Jerusalem is quite self conscious of its position as Holy City and government centre. Its development outside the walls of the ancient city has been haphazard. Nevertheless there is a feeling of dignity and spaciousness in the city, which spreads over the Judean hills, clinging mainly to the higher points and leaving the valleys (wadis) free and available for the future parks and green belt, as envisaged by the Jerusalem Regional Plan. The central part of the city presents a picture of disordered groups of blocks with business premises,

1





shops and dwellings intermingling. The general effect, however, achieves greater unity than elsewhere, owing to a bylaw which compels the use of stone for all facing. The silhouette of Jerusalem is punctuated by various spires and towers, 2, that of the YMCA building being the dominant one, 1. From its top there is a view across the whole width of Israel, from the shores of the Mediterranean to the Dead Sea.

3, one of the buildings now



3

nearing completion, which will form part of the big government centre, *Kiryah*, shown in the model, 4. The work is the responsibility of the governmental office of development of the *Kiryah*, under the direction of Ing. S. Arazi, with I. Klarwein as chief consulting architect.

The 'Hadassah' hospital group built by the late Erich Mendelsohn still remains one of the most remarkable groups of buildings in Jerusalem, 5.





tel-aviv

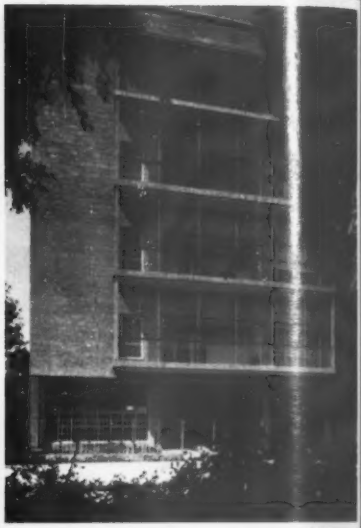
Tel-Aviv is a young and vigorous city. It was planned as a 'garden city,' but the general development turned the town into a thriving commercial centre, with numerous apartment houses on sites intended for one-family homes. The outcome, 6, is the natural result of a plan lagging after the inevitable social and economic development. However, a master plan is now in preparation for the city.

Tel-Aviv is fortunate in having adopted the idea of houses on stilts and evolved it as a guiding principle in the planning of residential streets, 9. A bylaw demands that a certain percentage of the site must be left free of enclosing walls. Thus front gardens are carried through under the houses, 8, giving the street an appearance of greater width and providing the eye with an escape from the scorching rays of the summer sun.

The general standard of residential architecture in Tel-Aviv is high. 7 and 10-12 are some recent buildings by D. Carmi, Architects Collaborative. In 11 and 12 the required underpass has been developed as a continuous colonnade; the scheme was designed in collaboration with architect Z. Rechter.

Another recent work by the same architects are the office blocks housing the executive of the *Histadruth*, Israel's Workers' Organization, 13-15. Sun protection is provided by louvred concrete frames round the windows,



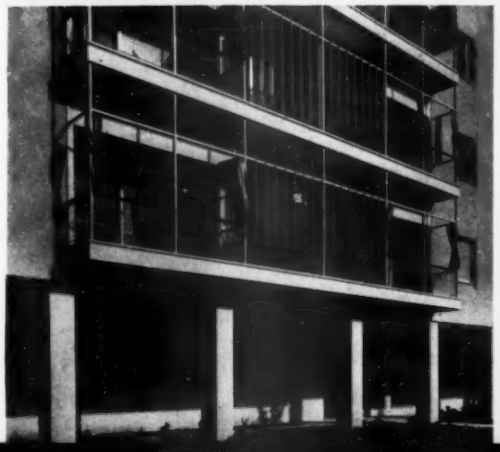














4	
5	
6	7
8	9
10	11
12	13

constructed of precast members; a device which has not yet been widely adopted in Israel.

A few years earlier is this office building by D. Carmi and Sharon & Idelson in Allenby Street, 16. Its main feature is an arcade on the ground floor, 19, comprising shops, a café and the entrance to a small cinema.

Israel is trying hard to develop its tourist industry, and the government encourages the building of luxury hotels. The Dan hotel, 20, by H. Fenchel boasts facilities not found elsewhere in the Middle East. It is one of the few buildings for which an ample supply of imported materials was permitted. 18 shows the sun-protected façade facing the sea. The entrance, 17, has a coloured mosaic wall to the right, and an entire entrance wall of glass.

The Nordau Plaza Hotel, 21 and 22, now under construction, is by W. J. Witcover and E. W. Bauman, and is also built on a

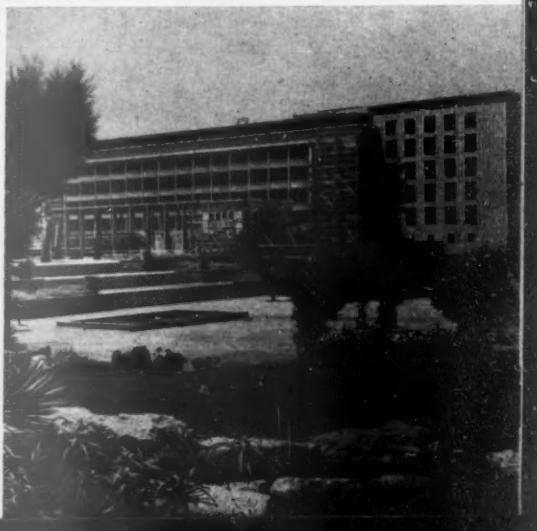
14	15	16
17	18	19
20	21	22











grand scale. The site enjoys two advantages: it is directly on the sea and it is part of a long municipal garden, laid out along the shore. The building is seven storeys high with about 330 beds. There is a dining hall with 400 seats, and a Banqueting and Convention Hall, accommodating 700 people. The garden contains an open air swimming pool, and there is a private access to the seashore through a tunnel under a pedestrian way.

Two important and only recently completed buildings by Sharon and Idelson are Lessin's Cultural Centre, 23, comprising an auditorium for 350 people, dining room, club, exhibition hall, library, reading room, etc., and Beilinson Hospital, 24 and 25, a general hospital of 500 beds in Petach-tikva, near Tel-Aviv. The medical and economic services attached to this hospital are planned to serve the existing hospital of 200 beds and other blocks with additional 500 beds (total 1,000 beds).

23



24, 25







26

haifa

Haifa is a typical example of a town plan clearly defined by its physical environment. It has two great natural gifts—a spacious calm bay off the Mediterranean and Mount Carmel. A deep-water port in the bay provides Haifa with the opportunities of becoming a major centre of international commerce and heavy industry. From the port there is a steady rise of the ground, up the slopes of the Carmel, and the city layout adapts itself to this, 26. Near the port there is a dense commercial centre and area of big office buildings. Higher up, the plateau of Hadar Hacarmel with mixed trade, administrative institutions and high-density residential development. Still higher on the ranges of Mt. Carmel, with its cooler climate and pine groves, are the more spacious residential areas. The Master Plan of Haifa, now in its last stages of planning, follows this outline. One of the main problems is that of communications, for Mount Carmel falls steeply into the sea, leaving only a narrow strip of land, along which runs the main north-south road of the country. Its passage through the town creates serious problems, and the Master Plan suggests a tunnel through the mountain. At present



27

28, 29

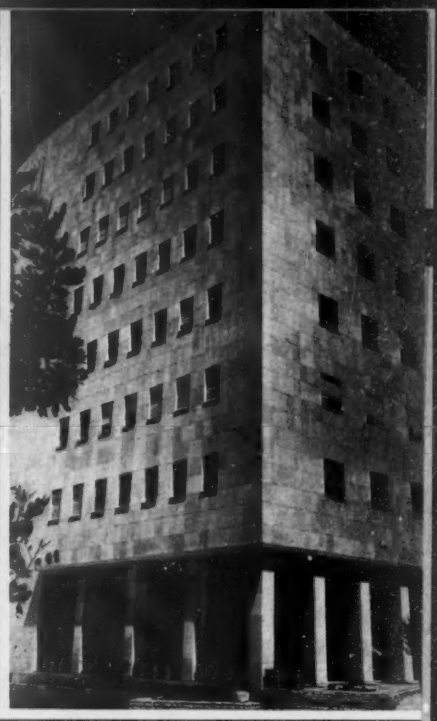
the road passes along the main commercial thoroughfare of Haifa-Atzmaut Street, 27. The site of the street and the houses flanking it was reclaimed from the sea during the construction of the port.

The Haifa Municipality has a hard time trying to preserve the fine view from the slope of Carmel towards the port. It has passed bylaws strictly restricting the built-up area and height of buildings on the slope, but it is proving difficult to enforce them.

The waterfront silhouette of Haifa was until recently quite low and uneventful, except for the government hospital built by the late Erich Mendelsohn at its western end, and a lofty grain silo. Another vertical accent has now been added in the form of an eight-storey office building by S. Rozov, 29. It houses the offices of the *Solel Boneh* building company, a part of the Israel Workers Organization, and one of the largest contractors in the country.

Not far away there is another high building—the new wing of the Zion Hotel, 28. It is by the same architect as the Dan Hotel in Tel-Aviv, H. Fenchel, and there is a similarity of approach in treatment of the façade and detailing of the entrance.









30, 31

The ranges of Carmel provide an ideal site for residential buildings. Illustrated here is work by the partnership of M. Weinraub and A. Mansfeld. The 'Tsnobar,' 30, and the 'Stella-Maris' schemes, 31. They both comprise two-storey blocks of flats of two and three rooms and a habitable entrance hall.

beersheba

Another town quickly developing into a major urban centre is Beersheba, the capital of the Negev. Until 1949 Beersheba was a kind of a centre for the nomadic Bedouin tribes and a secondary administrative centre of this district. But its importance grew considerably as the plans for the development of the Negev began to materialize and new settlements came into being in the Negev reaches.

It was projected by the National Planning Department as a city of about 60,000 inhabitants, concentrated in six neighbourhood units. The old town planned by the British is one of them, while two units were already erected in the vicinity, with an intended centre bringing them into a whole.

To counteract the inevitable feelings of monotony and remoteness consequent upon living in a new community on the border of the desert, a theatre and cinema hall, 32, was constructed at an early stage to the designs of Shulamith and Michael Nadler; it will finally form part of a civic centre and faces a public square, the platform in front of the theatre serving as a stage for outdoor performances. The auditorium seats 1,100. As air conditioning has not yet been installed, the lower part of the



32

panelling allows a flow of air from outdoors, ensuring cross ventilation.

33 is a block of flats in one of the new neighbourhoods, and 34 is a shopping centre. There is an obvious need for a vigorous landscaping policy.

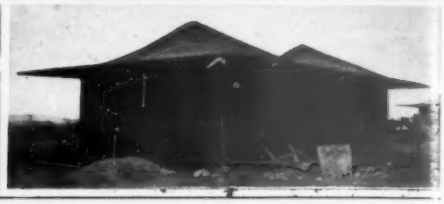
Beersheba was the scene of experiments with adobe houses, which may prove suitable for the hot climate, owing to the great wall thickness. Two types, 35 and 36, have been evolved with the advice of UN experts.





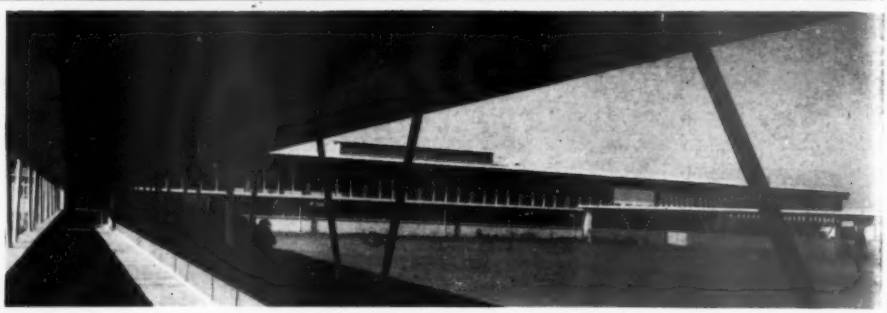
33, 34





35, 36

The Kaplan Hospital at Rehovot, by Rechter, Zarhi, Rechter and Sari, 37, provides 250 beds, and is built on the pavilion principle, partly because of the need for speedy erection, but also because there is wide support for this form of building in medical circles. It is intended, at a future date, to glaze-in the covered ways between buildings.



37

co-operatives

The prevalent types of land settlement in Israel are the *Moshav* and the *Kibutz*. The general idea of a *Moshav* is that though the individual and private life of the member remains unchanged, all the activities concerned with earning a living off the land are controlled by the community; the degrees of co-operation are numerous.

The *Kibutz* has gone much further in controlling all aspects of life for the communal good. Here almost all household activities, such as cooking, laundry, child-raising, etc., are concentrated in communal institutions. The members dine in a communal dining hall, receive clothing from the communal store and laundry, and share according to ability in the common duties. The children are raised from infancy under the care of nurses and teachers and spend only a few hours daily visiting their parents.

These new ways of living demanded new types of buildings. 38 is a typical dwelling group in a *Kibutz*; each couple has its own w.c., shower and cooking recess, and a room divided into living and sleeping areas.



38



39

The children's buildings present a whole range of types, according to age. The first four school years, for instance, are spent in a group home, divided into children's rooms, classrooms and dining room and utilities. Another example of a classroom unit type is that in Merhavia, 39, where the opportunity was taken, because of the sloping site, to design the classroom and the living wing on different levels.*

Only from the fifth school year onward are conventional schools to be found, and they are usually of the pavilion type. The school children, in fact, form a small, separate community, with its own activities and interests.

* The building was designed by the technical department of 'Kibutzei Hashomer Hatzair', arch. Mestechkin.

The name miscellany implies, of course, an architectural miscellany—one that will include subjects which, though marginal to architecture, are nevertheless vital to it.

miscellany

BOOKS

CITY-MAKING

THE CITY OF MAN. *By Christopher Tunnard. Architectural Press. 50s.*

Few will disagree with Mr. Christopher Tunnard's main theme, that the city, in order to fulfil its function as the focal point of civilization, must be both beautiful and unmistakably a city. He decries equally the merely utilitarian city and the garden city which denies its essentially urban character. Above all he deplores the 'paper' plan which substitutes two-dimensional zoning for three-dimensional design, and the tyranny of traffic requirements over the plan; 'Relieving traffic congestions . . . should not be called planning.'

One may agree that the social and scientific planners have been allowed undue weight at the expense of the artists, and I certainly share his revulsion against the amorphous and meaningless tide of green which invades modern plans: 'grass and trees only where they are essential to the plan.'

But this need not mean ignoring the lessons of Mumford's organic city. Turning away equally from the 'organic' and 'broad-acre' cities, and from the school of Corbusier, Mr. Tunnard looks back to the classic tradition. While it is true that the Renaissance combination of artist, architect and sculptor produced civic groups which we cannot equal today, it is surely unjust to accuse the moderns of forgetting history and seeking novelty for novelty's sake. They are forced to find new forms to meet new problems, not the least of which is that of satisfying a regard for the welfare of the individual; a problem which was unthought of in the days of the grand manner. By all means let us bring back all the arts to help us to create our cities, but the answer they will find is unlikely to bear any resemblance to that of the Renaissance.

A provocative book, which leaves one hoping that Mr. Tunnard will continue to look forward as well as back. **Sylvia Crowe**

THEORY AND OBSERVATION

FORMES, COMPOSITION ET LOIS D'HARMONIE: VOL. 1—GENERALITÉS. *By André Lurçat. Paris, Editions Vincent Fréal et Cie.*

Though his name has not been much in the news of late, the historical position of André Lurçat as one of the shapers of modern architecture is assured, and publication of his treatise has therefore been awaited with interest. The first volume of this massive five-decker has now appeared, and gives one a foretaste of the quality of the work as a whole, though it is of course far too early as yet to judge it.

The plan of *Formes, Composition et Lois d'Harmonie* breaks down into five main parts, each corresponding to one *tome*, and dealing, in order, with General Considerations; Forms and Elements of Form; Plastic Means; Fundamentals and Structure of Composition; The Laws of Harmony. It will be seen that none of these main headings affords the writer any of the usual means of escaping from aesthetic responsibilities—there are no chapters headed Function or Structure, for instance—and the plan of the book appears cognate to that of the great French academic *systèmes*. But this is not a book of academic-revival aesthetics; just at the point where the jaws of some Guadetesque proposition seem about to close, the inexorable process of academic logic is halted by direct and practical observation.

Thus, though his sense of the word 'monumental' seems badly eroded, though his views on Gothic structure seem more Viollet-le-Duc than Pol Abraham, though he insists on the divisibility of form and content and on the irrelevance of style as a means of expression, yet, in spite of all this academic apparatus, M. Lurçat's analyses of individual structures in the last chapter of this first volume all proceed in a most reassuring way from purely visual considerations. He does not start with the abstract logic of the plan, but arrives at it from the summation of a series of man-high, binocular scrutinies of the aspects of the building. In the case of Palladio's Rotonda, he gives primacy to the views from the porticoes, while in the case of the Piazzetta of St. Mark's he subjects the interior elevations to what can only be termed a Townscape survey.

His study of this famous 'exterior drawing-room' concludes with a summary of the plastic means employed in it for aesthetic ends: judicious and unexpected use of the site; extension of the composition beyond its own limits by the incorporation of neighbouring, but extraneous, elements; deliberate deformation of the shapes on plan in order to create optical illusions and perspective effects; systematic and varied use of contrast, between light and shade and between differences of colour, material and scale; provocative use of repetitive rhythms of regular elements; animation of surfaces by the introduction of elements differing in their use and composition; siting of the main accents away from the axes of the composition; and finally the exploitation of the associational qualities of forms in order to isolate or reinforce a visual impression. The words may be different, but this is unmistakably the townscaper's visual and unacademic approach. If this observational quality is maintained through five volumes it should breathe real life into what might have been just another treatise on architecture, but which, with the guidance of this sensitive eye, and magnificent illustrations, may emerge as a unique work of theory in the French tradition. **P.R.B.**

PARISH CHURCHES

ENGLISH PARISH CHURCHES. *By Graham Hutton and Edwin Smith. (Thames and Hudson. 42s.)*

CHURCHES OF SOMERSET. *By A. K. Wickham. (Phoenix House. 30s.)*

Mr. Smith's photographs, which form the main part of his book, have skilfully reproduced the spirit and character of some of our parish churches in a manner that is both sensitive to the atmosphere of the subject and faithful to fact. Unfortunately the text does not reach the same high standard. It seems that the author was not certain for whom the book was intended; as it is, the text will neither satisfy the scholar nor the reader who has an interest in our early churches but has not a specialist's knowledge. The latter will be confused by the unsystematic approach that fails to give a sufficiently lucid account of the development of lesser church architecture. He will wonder what is meant when, in a paragraph on post-Reformation churches, he is referred to plates 190 to 206 with the words: 'The chancel is opened up to the congregation in the nave. Screens have gone . . .,' although plate 190 shows the Jacobean screen at Croscombe and plate 202 the late seventeenth century screen at Ingestre. The more serious student will be as perturbed by the inaccuracies as by some of the meaningless phrases, such as '. . . the cool, clean articulation of Whitechurch Canonicorum (72, 196)'; plate 72 shows some nave-arches of three different dates and plate 196 illustrates the seventeenth century tomb of Sir John Jefferey. On what grounds is it stated that Cardinal Morton gave the roof of Bere Regis church? There is no documentary evidence to support this rumour. We are told that the north aisle of St. Sepulchre's church in Cambridge was added in c. 1350. In fact it was a fifteenth century aisle perhaps on the site of a thirteenth century one, and which was entirely rebuilt and lengthened in 1841.

In dealing with the towers of Somerset churches which rank among the greater glories of this country, Mr. Wickham broadly accepted the classification evolved by Dr. Allen, although he made out a good case for a few readjustments. At times the chronological account is somewhat disturbed by descriptions of churches that mention features

of different dates and belonging to different contexts. Certainly some plans of a few typical and outstanding churches should have been included, and it is hoped that this will be done if a second edition is produced. In discussing post-Reformation church fittings the author appears to have overlooked the Marvian revival; this would explain the order of 1561 demanding the destruction of roods and rood lofts, notwithstanding the similar order of 1541 (probably a more accurate date than he quoted). Mention might have been made of the exceptionally large number of stone pulpits in Somerset and of the five stone screens. However these are minor criticisms of an otherwise very competent survey.

Denys Spittle

THE AGE OF CABINET-MAKERS

ENGLISH FURNITURE: THE GEORGIAN PERIOD. *By Margaret Jourdain and F. Rose. Batsford.* 63*s.*

LONDON FURNITURE MAKERS: 1660-1840. *By Ambrose Heal. Batsford.* 6 *gns.*

The death of Miss Margaret Jourdain has deprived the study of the applied arts in England of one of its outstanding scholars, and our regret is the greater that it should have occurred before the completion of her book on Georgian furniture, of which great hopes were entertained after her studies of Regency furniture and the work of William Kent. The material she had accumulated has now been put into publishable shape by Mr. Rose, of Sotheby's, but the result will, one fears, disappoint most of the hopes entertained of it. There is much that is good and original in the book as it stands, and the photographs—of details of carving and so forth—are superb, and suggest a masterly scheme of exposition which is now lost. But there is, inevitably one believes, a lack of direction and point in the accumulated material, collected by one mind, and, to a large extent, expounded by another.

But it seems, in any case, as if our view of Georgian furniture-making is due for a serious overhaul; our increasing knowledge of the names, outputs and, if one may use the term, craftsmanly personalities of a number of individual cabinet-makers is beginning to shake the faith of even country auctioneers in such blanket terms as 'Chippendale' or 'Adam.' This development will be taken an enormous stage further by the publication of what is, in effect, an extended catalogue of Sir Ambrose Heal's unique collection of cabinet-makers' trade-cards. Many of these are illustrated in the book, and are immediately suggestive of the probable taste and inclinations of the makers they advertise, while, where actual work by any maker can be identified and illustrated, very clear individual tastes and specialities appear. As an instance, one may cite Coxed and Woster, at the sign of the White Swan in St. Paul's Churchyard, who supplied furniture for Henry Hoare at Stourhead, and whose speciality is so distinctive that we shall surely find the term *a Coxed Bureau* as commonly current here as is *a Savory low-boy*, on the other side of the Atlantic.

Q.S.C.

OVER THE RIVER

THE BRIDGES OF BRITAIN. *By Eric de Maré. Batsford.* 42*s.*

Eric de Maré has given us the first authoritative study of Britain's bridges, and has illustrated it with many of his own excellent photographs. The book is divided into three sections, the Age of Faith, the Age of Reason and the Age of Greatness being typified respectively by the master mason, the architect and the engineer.

A mastery of the technical problems of bridge and aqueduct building attained by the Romans remained unmatched until the development of our industrial world brought new materials into use. In Britain, however, such skill in stonework was never acquired, and the craft which had barely survived the Dark Ages in Europe developed slowly under the auspices of various monastic orders. The mason-built bridge, whether under religious or secular jurisdiction, continued as the product of a strong tradition until well into the eighteenth century. Few of the architects became great bridge-builders, but many among them produced one or more excellent designs, including Adam, Vanbrugh, Carr, Mylne and Soane. The attribution of two Welsh bridges, at Bangor-is-y-coed and Llanwrst, to Inigo Jones is mentioned by Mr. de Maré, and further light on this would be of great interest. In the same district, the unlikely story of William Edwards catches the imagination. Starting as a farmworker, after two ill-fated attempts he succeeded in bridging the Taff with the single 140-foot span of Pont-y-Pridd which stands today after two hundred years, a startling achievement and testimony to remarkable originality of mind.

Bridges with chapels, packhorse bridges, war bridges and bridges such as Blenheim, constructed as follies in a landscape design, are followed by a succession of bridges of iron and railway viaducts. Omitted from mention is the unusual specimen on Regent's Park canal, supported by two rows of handsome cast-iron Doric columns and bearing the mark of the Coalbrookdale ironworks.

Elaine Denby

Shorter Notices

GOTHS AND VANDALS. *By Martin S. Briggs. Constable.* 30*s.*

Mr. Briggs' sober text logs the documentary records of scorn or praise for the old buildings of England with the tireless patience of a small boy logging engine numbers at Crewe, but he fails to animate his documents with observation. The importance of Inigo Jones' interest in Stonehenge in 1620 is unarguable, but the contemporary mediævalisms of Bolsover and Wollaton are surely even more important as records of attitudes to the past. Hawksmoor's Oxford gothicisms, so vital in preserving the tradition of Classic-Gothic ambidexterity, are written off as 'horrible,' while the key contributions made by the 'landscape of literary associations' and the continuing picturesque tradition are smothered in a summary record of eighteenth-century cathedral restoration —in spite of which Francis Price is not even mentioned.

In some ways the closing chapters are more enlightening; the author seems more at home with Gilbert Scott and the polemics of anti-scrape, and many readers will therefore prefer to begin at page 170 and read the last third of the book only. But here too they will find disappointments, for though the mass of twentieth-century legislation on ancient buildings is well summarized, and the work of military conservation authorities after D-day is recorded, nothing is said about the advent upon the English scene of the new, German-trained type of art-historian who is bringing about, by stealth, another great revolution in our attitude to the buildings of our forefathers.

Q.S.C.

LONDON CITY CHURCHES 1951. *By Gerald Cobb. Corporation of London,* 1951. 1*s.*

Mr. Gerald Cobb, of the College of Arms, whose Batsford book on the old churches of London is familiar, has compiled a brief guide to the City churches for the Corporation of London. It is an extremely useful little book. It consists of a short preface and suggestions for further reading, and in addition about two dozen pages of notes on the individual churches. They are remarkably accurate and comprehensive, including information on such things as the first mention in history of each church, the meaning of the names of some churches, and also on war damage. Churches of which no more than towers remained already before the war are not left out either. In addition there are 52 drawings of the City steeples. Short of carrying round with him the bulky volume of the Royal Commission on Historical Monuments the visitor to the City cannot do better than to equip himself with Mr. Cobb's pamphlet. It costs him less than six Players.

N.P.

CRITICISM

NEW BUILDINGS IN CAMBRIDGE

Our own generation's contributions to the architecture of Cambridge have often been criticized, but it is all to the good that their shortcomings should be insisted upon repeatedly until such time as the powers that be in the university see the light—or, as we can now say a little more cheerfully, until the promise of a more enlightened attitude shown in the 1958 project for the new Arts Faculty, is fulfilled in the shape of buildings as good as Sir Hugh Casson's precinctual lay-out.

One of the virtues of Dr. Pevsner's *Buildings of England* series of architectural guide-books is that they are far more than antiquarian studies. He never forgets that architecture is a live and changing art, and he is a perceptive critic as well as a historian. It is therefore no surprise that his latest volume, on Cambridgeshire,* contains, besides perhaps

* Penguin Books, 1954. Price, 5*s.*, bound, 8*s.* 6*d.*

the most concise and readable account of the architectural monuments to be found there, a number of outspoken comments on newer buildings. Here is an extract from his introduction:

'. . . a terrible pity that most of those (college buildings) already built to the W of the Backs are so uninspired and so unconscious of being in a position as important as King's Parade. The new buildings to come should of course be in the style of our century: that hardly needs saying. The sites are unobstructed; compromises for reasons of proximity to the old cannot be pleaded.'

And in a footnote welcoming the Arts Faculty project referred to above, he says:

'If this scheme is carried out, and if Sir Hugh Casson and other architects of his imagination and frame of mind are allowed to design the buildings, Cambridge will at last possess what it so badly needs—C. 20 architecture as æsthetically valuable and as attractive and lovable as any of its past.'

The Arts centre is a university project, as are most of the other recent building schemes that make any attempt to create something true to our day. But much of the building in Cambridge is done by colleges, and in his separate accounts of college architecture Dr. Pevsner takes his criticisms further, as the following quotations show.

Of the new (Fisher) building, 1, at Queen's College by Drinkwater (1935-6): 'exactly like a friendly block of flats at, say, Pinner . . . The College wasted a great opportunity here for a good contemporary building. It would in no way have interfered with existing collegiate structures of the past. So why should a timidly imitative style have been preferred?'

Of Trinity College's Bevan Hostel (Ian Forbes, 1949) in Green Street, 2: '. . . appears in its style as a private house trying to look something special by the



1

use of much decorative brickwork. The mansard roof is an oddity in the street and the college. There was no reason, one feels, why in this particular position the architect should not have chosen what is the natural expression of building in *c.* 1950, i.e., the style of the C. 20.'

Of the Memorial Building at Christ's



2

(Prof. A. E. Richardson, 1952), 3: 'The architecture . . . is curious. It clearly belongs to the C. 20 in its severe plainness (and the motif of the long staircase window at the back). It is beautifully stone-faced. But by general proportions and window proportions it manages to express its designer's faith in the Georgian style so unmistakably that the impression one takes away is of Georgian buildings stripped of all the delicate detail which the C. 18 never



3

failed to apply. . . . The size of the court is convincingly collegiate, and so the whole group may one day be accepted with as much ease as older buildings. Walter Gropius's plans turned down by the College before the Second World War would have remained more alien—yet what an asset their frankness and vigour would have been!'

Of Sir Edward Maufe's work at St. John's College (Chapel Court, 4, North Court and the service court beyond, 5,—1938–9): 'For Chapel Court itself Sir E. Maufe devised a successful unifying motif. He erected in his own style a screen in front of the antechapel. This has low round-headed arches on short square piers. It is in a kind of renewed Renaissance, and the solidity of this is taken up in the arches further N by which Chapel Court is connected with the NE service court. The much taller main archway through the N range is also round-headed, and the sculpture above it (as well as what other sculpture there is) goes well with the robust character of Sir E. Maufe's personal contribution. There are, however, two regrettable shortcomings in his work, one that he did not keep to this style of his throughout, the other that this style was not that of our own day. As for the first, there is a painful clash between Sir E. Maufe's round arches and both the vertical strips of the staircase windows and the horizontal strips of the other windows. Both these are standard elements of mid C. 20 architecture, used here, one feels, without conviction. The thinness of their metal bars and the uncompromising straightness of their outlines call for a



4

setting different from Sir E. Maufe's. Where the clash becomes most violent is in the service court. Here the new one-storeyed range with its Continental C. 18 roof has qualities in complete contrast with the fenestration of the main buildings. It might be argued that the choice of a frankly C. 20 style would have been a lack of courtesy to the existing buildings. But that is not so. The chapel was screened off and thereby visually pushed back anyway, and the outer wall of Second Court and Penrose's range should not have influenced decisions overmuch. On the contrary, the new buildings face Bridge Street, and here, opposite low houses of all sorts and styles the architect would have been just as free as the architect of Caius in the market place. This opportunity for a fine contemporary building was missed, and what is perhaps



5

worse, the opportunity for a properly urban piece of college architecture was missed too. The site borders on the NE on one of the busiest corners of Cambridge. This crossing of two main streets has been entirely disregarded by the architect. Bridge Street altogether has not been

accepted by him as a street. His composition has no N front, strictly speaking, only parts of various heights, approaching the street at various angles.' J.McQ.

EXHIBITIONS

PAINTING AND SCULPTURE

The large, ill-balanced, badly hung assortment of European paintings of the eighteenth century at the Royal Academy includes some masterpieces and a great many pictures in which the legend that the eighteenth century was an age of graceful sensuality is confirmed by the subject-matter and denied by the tastefully pedestrian treatment. The inadequate representation of Watteau and Goya leaves only Fragonard, Gainsborough, Guardi and—in one or two of his more summary works—Hogarth to provide a display of graceful sensuality in the handling of the medium itself. Boucher's drawing of Diana asleep is beautiful, but his neat, pink paintings of sprawling nudes are as frozen as David's 'Death of Socrates.'

Oudry's famous painting of a dead white duck has a special piece of fabric pinned up behind it, presumably as a mark of esteem, but although its cold virtuosity may well represent for many academicians an unattainable ideal, it was a mistake to hang some Chardin still lifes in the same line. There are eight, small, marvellous Chardins scattered through two galleries, and they constitute a kind of underground movement, in secret communication with other centuries, establishing links with Piero, Vermeer, Cézanne and Morandi, sabotaging an otherwise frighteningly efficient time-trap.

I have chosen for reproduction one of the thirty-eight Canalettos—*Palazzo Quirinale, Rome, from the South*—because its sharp, cool precision, 1, may be less affronted by Léger's *ABC*, 2, than most of the other eighteenth century work.

The Léger picture was included in his recent exhibition at Marlborough Fine Arts, which made a better and more stirring display than the recent London exhibitions of his greater contemporaries, Picasso and Braque. I thought I had outgrown the delights of Léger's mechanistic constructions, but the selection devoted to this period in the Marlborough retrospective turned me into an unwillingly elated witness of an art dedicated to the greater glory of the spare part. His cubist period contained a promise that was not fulfilled, and a landscape dated 1912 is a more subtle and refined picture than anything he has done since. All the same, it is the uncompromisingly metallic compositions of the twenties, such as *ABC*,



1



2

that I find most exhilarating. Unfortunately the exhibition did not include one of the large figure paintings of the period, in which he so successfully transformed the female figure into a sheet-metal container, and the later compositions with figures are a poor substitute, for he has relented in recent years and has tried to indicate his love for humanity by giving his robots a rubbery look. But even in the 1951 compositions concerned with building operations the tilted girders make superbly expressive patterns and brilliantly suggest the dizziness and airiness of great heights. The rubber workmen are freakish intruders, and in the best of these girder pictures they have been called off the job, but the composition is still marred by rubber clouds sailing clownishly across a Reckitt's blue sky. There is no place for such naïve and insensitive references to natural forms in Léger's mechanistic heaven: they are cracks in the gong of his hard, bright, simple imagination.

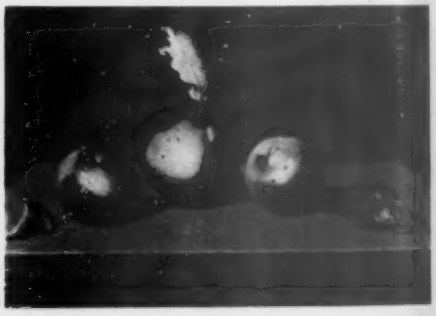
The Arts Council's exhibition of small bronzes made by the ancient inhabitants of Sardinia several centuries before the island became a province of the Roman Empire introduced us to a community of priests, archers, wrestlers, sailors and women nursing very small men. The naïve formalizations in which these primitive sculptors have preserved their seemingly humorous observation of the way people go about their work give these bronzes an extraordinary warmth of feeling. The turned-up toes of the warrior in the illustration, 3, suggest the bodily tension that the archaic formula for the



3

arms cannot encompass, and compensations of this kind run through the whole exhibition. The Arts Council took the opportunity of underlining the element of primitivism in modern sculpture by adding to the exhibition some small bronzes by Moore, Butler and Armitage. There were some close parallels, but the modern work completely lacked that air of happy communal living that makes the Sardinian bronzes so deeply moving.

I used to know how to despise apples



4

painted in the way that Tristram Hillier paints them, but I've forgotten the trick of it. It is true that there were one or two



5

still lifes in his last exhibition at Arthur Tooth & Sons that left one with a dry sum of illusionistic recipes, but the small paintings of apples contain not only the illusion of objects but an encompassing human gaze, and if the painting reproduced here, 4, is an exercise, it is an exercise in the profundities of human appraisal.

Denis Wirth-Miller's fourteen paintings of a dog in movement, 5, made a remarkable ensemble at the Beaux Arts Gallery. He has been influenced by Francis Bacon, and his work has a refined dexterity that turns Bacon's 'leap in the dark' into a neat pictorial system, but the intensity



6

of his observation serves an almost metaphysical obsession with continuous movement, and projects his work beyond the category of animal painting.

From time to time, the Architectural Association mounts an exhibition in the Members' Room which deserves a larger audience. The selection of drawings, paintings and prints by Kenneth Rowntree shown there recently is a case in point. His drawings of shop-fronts, in which the written colour notes integrate themselves so happily into the design, his darkly shining, rain-sodden landscapes, and his curiously monumental little paintings of domestic vessels in landscape settings, 6, leave the impression of a quiet visual poetry that has not been adapted to the latest market requirements. **Robert Melville**



1



2



3

LANDSCAPE

FARM BOUNDARIES

The countryside is in constant danger of an overnight conversion to suburbia and the threat is not restricted to building alone but extends also to one of its most significant features, its fences. The distinctive patterns of the different types of farm boundaries contribute almost as much to the regional characteristics of the English landscape as do the farm buildings and crops. The traditional forms which have evolved are partly rooted in the type of agriculture, and partly governed by the local material, but within these limits each region has developed its own peculiarities. In the stone districts, particularly above the tree line, dry walling is the natural form of boundary, but the thin, neat coursing of the Cotswold stone walls, 1, is quite distinct from the more random walls of Yorkshire, 2, or Wales, or the Northumberland walls with their protruding string course.

Each type of hedge has its distinctive character whether it be the familiar rough fence of mixed planting, the thorn hedge, or the roadside hedge, 3, which, rough trimmed by the hedger and ditcher and browsed by cattle, is the very essence of the English scene. Throughout the Midland and Southern counties, the

The battle against uniformity cannot be restricted to buildings alone but must be extended to the very essence of the countryside, its hedges and fences, which is constantly threatened by the grey hand of suburbia. A fine tradition of boundary making exists. Regional methods of stone walling are exemplified by the neat coursed Cotswold, 1, and the rougher uncoursed Yorkshire, 2, which in addition to their function as barrier delineate the contours, being generally of an even height and unobstructed by trees. The most common forms of hedge are the thickly interlaced hawthorn, or the mixed hedge, of plum, hedge maple, hazel, sycamore and elder. The roadside hedge, rough trimmed, takes on a more ornamental appearance than the hedge between fields but retains a rural roughness of character, 3.



4



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6



7

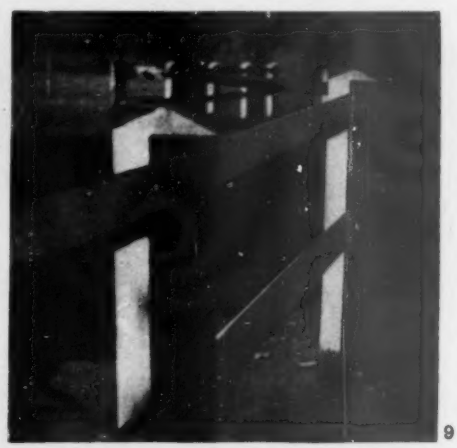


8

To be cattleproof many hedges are cut and laid at intervals throughout their life. When 7 feet high the young trees are cut to leave standing a number of long upright shoots which are then 'layed' by cutting them half through near the base, bending them over and weaving them between sturdy upright stakes which have been planted at intervals to form a frame. To prevent the shoots from springing out the stakes are held by a braided border of hazel rods. When staked the fence is known in Warwickshire as stake and bound, 4. *In* 5 *a wind-break of poplars forms the farm boundary while* 6 *shows how the introduction of clipped hedges and associated garden conifers, in contrast to the country hedge across the road, turns the whole scene into suburbia. The same incongruity would be achieved by the use of a trim white painted post and rail fence,* 9, *very suitable for a paddock but wrong for a farm where the split oak fence,* 7, *is just right seen in the rough grazed field where it acts as a physical but not a visual barrier. The practice of morticing the crossbars to the uprights is found too costly for general use nowadays but even nailed this is more appropriate than the much used but characterless concrete post and chicken wire fence. That it is possible even with mass production to provide a barrier in harmony with the countryside is proved by the tubular steel gate,* 8.

laid hedge, 4, is the practical boundary which has evolved where a cattle-proof barrier and moderate shelter from wind is needed. Where greater wind shelter is required this may be provided by the tall thorn brakes of East Anglia, and screens of close-planted poplar sheltering orchards in Kent and Worcestershire, 5.

The pattern of the laid hedge is more virile, and the rough-trimmed hedge more informal than the neatly clipped garden hedge, 6, whose appearance can be



9

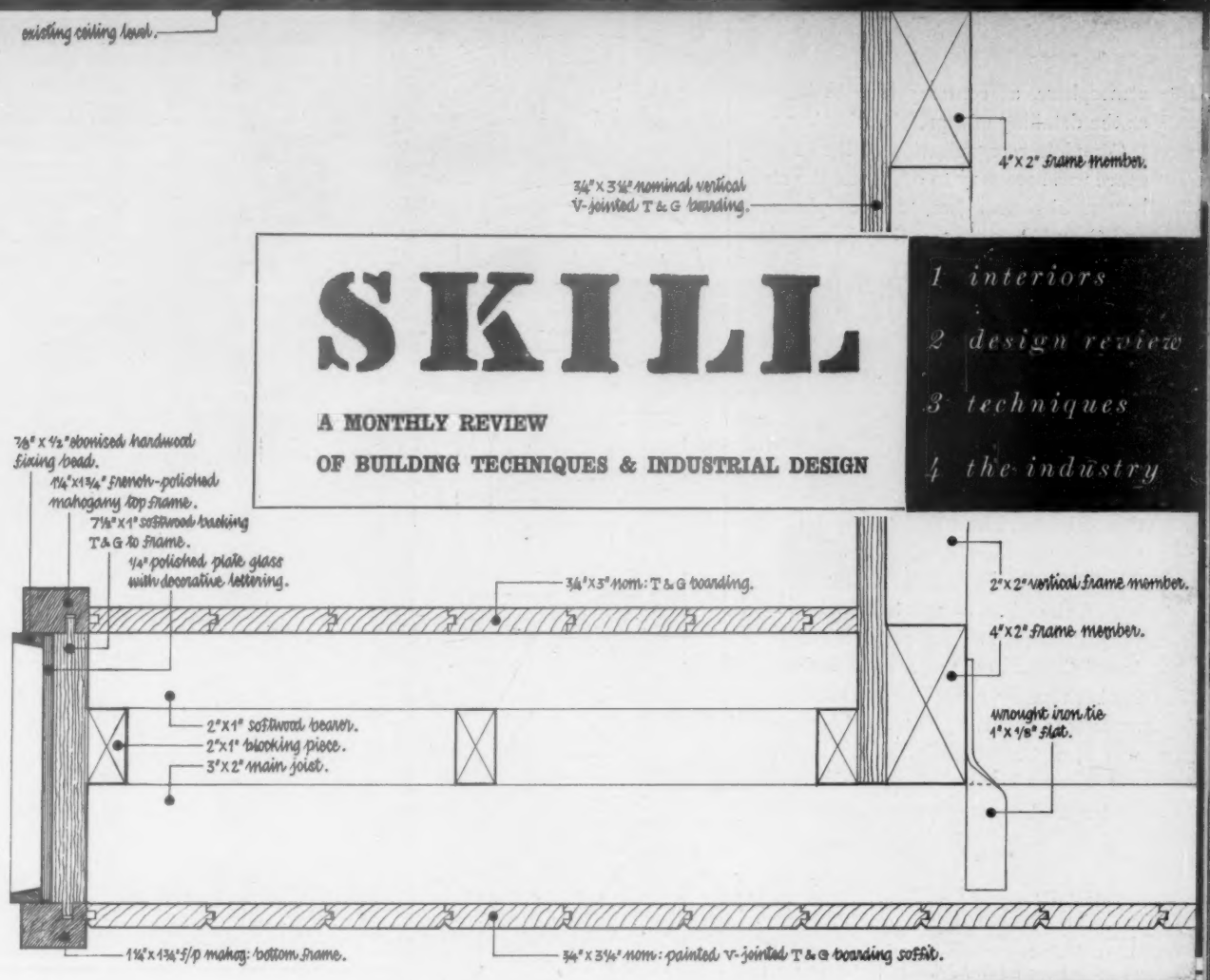
incongruous in the purely agricultural scene, although it may fit into the sophistication of park scenery, where the white-painted post and rail, 9, is also in accord with the well-groomed surroundings, whereas rough barked poles make a more fitting boundary to field or woodland, 7. Changing farm methods and economics make new types of boundary inevitable, but these, even if they are of materials new to the countryside, can follow in the tradition of straightforward harmony with their surroundings, 8, and need not degenerate into the clumsy concrete post and wire which has neither the flexibility of movable hurdles nor the protective value of good hedges.

Sylvia Crowe

SKILL

A MONTHLY REVIEW
OF BUILDING TECHNIQUES & INDUSTRIAL DESIGN

1 interiors
2 design review
3 techniques
4 the industry



Above, a section through the canopy over the central bar counter, 1, below, the canopy from the cosy bar with the display of bottles and barrels.



1 INTERIORS

'THE CHAMPION' PUBLIC HOUSE IN WELLS ST., W.1

Architects: John and Sylvia Reid

Further evidence that certain basic points, which were established at the time of the ARCHITECTURAL REVIEW *Pub competition, are beginning to be appreciated, is provided by the new interior of* The Champion, *off Oxford Street, the first example of creative refitting of an existing pub.** A dull institutional interior was in need of refurbishing, and a certain amount of brewers' Victoriana was at hand to be used, but the designers have not made a mere period reconstruction—and where new material was required it will be found to be, in spite of the successfully traditional

* The owners are Barclay Perkins & Company, Assistant Trade Manager, L. W. Cook.

THE CHAMPION

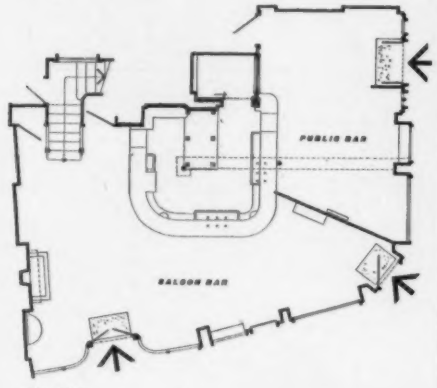
BEFORE

atmosphere, as contemporary in its way as the detailing of a prefab. school.

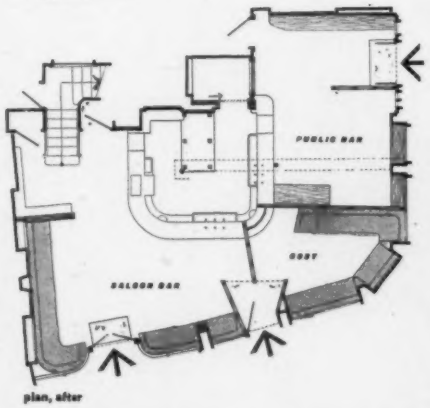
Complete reorganization of the existing space was necessary to overcome the air of barren bleakness (see 'before' photos 3 and 4), and there are now three bars in place of the original two. 2



The Public Bar has been reduced in size and separated from the rest of the pub by a mahogany and glass partition reaching to the ceiling, instead of the original low, glazed partition. *The Saloon Bar* has been divided into two parts to make a small Cosy Bar on a quadrant of the bar counter, in addition to the main Saloon. A low canopy has been formed over the central bar counter area. The original general colour scheme was almost completely monochromatic—a range of browns—from plain medium brown linoleum on the floor, via bleached



plan, before



plan, after

mahogany, pine grain papered walls, to the cream ceiling. The existing mahogany *Bar Counter* has been retained and restored, missing mouldings have been replaced, and stained and polished to the original colour. The space between the lowered canopy 1, which follows the perimeter of the counter, and the ceiling

BEFORE

The Champion, *whose corner sign is seen* in situ *in* 2, *and drawn out in full (as it had to be for the signwriters) in the adjoining column, had acquired an entirely flavourless interior,*



3

4



seen in 3 *and* 4, *above, due to the dilution of its originally Victorian quality by tasteless refitting. On the opposite page are seen the Saloon,* 5, *and the Public Bar,* 6, *with the true pub atmosphere restored by the bold and intelligent juxtaposition of old and new.*



5



6



7



8

has been filled with a crowded display of spirit jars, casks and bottles. The mahogany canopy fascia has inset glass panels 8, carrying signwritten names of various brews in three-dimensional letter forms. The 'Wagon' has been restored and shelves added so that it can be completely filled with bottles backed by mirrors. The brass footrail was specially designed, and the undistinguished beer-pull handles have been replaced with two genuine old sets, one Wedgwood and the other Rockingham.

saloon bar In order to use the available space to greater advantage seating has been built-in around the perimeter of the bar; it is of deep-buttoned leather chosen for its interesting texture and hardwearing qualities, but in bright red and not the traditional black. The black cast iron tables have been restored and given polished mahogany tops. A new set of bar stools has been made, in this case the design being based on a traditional model. *Wall surfaces* and partitions, of vertical mahogany boarding with square recessed joints (a commonplace contemporary detail) are stained dark and highly polished to give reflections. The painted plate glass on the main wall of the saloon, 7, is a particularly fine one (colours: blue, gold, red and green); unfortunately the paint had started to flake off; it was therefore backed with Dunlopillo sheeting mounted on blockboard. The remaining wall surfaces are painted dark green as a background for sporting prints. *The floor* is surfaced with large black and white marble lino tiles. *The ceiling* needed a rich texture to give it weight and interest, and the 'Hexagon' paper by John Aldridge was



9

10



AFTER **BEFORE**

7, the Saloon Bar from behind the counter. 8, the space between the canopy which has been built over the counter, and the ceiling, is filled with barrels, bottles and spirit jars. 9 is the view seen, before alteration, in 10.

[continued on page 139

important

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This advertisement is one of a series featuring Canadian Douglas Fir, Red Pine, White Pine, Western Red Cedar and Pacific Coast Hemlock.

TIM 6

chosen to give the illusion of deep coffering. *The windows* had leaded lights of reeded glass. These have been replaced with



11

plate glass, allowing views in and out, and the lower halves are obscured with brilliant cut and acid etched plates, 11. Each window has a different design and all had to be drawn in detail for the engravers. The upper parts of the windows are fitted with pinoleum blinds.

the cosy bar is similar to the Saloon Bar; here the deep-buttoned seating is of dark-green leather and on the floor is a red and black carpet (from BMK's contemporary range). The view of other bars across the central area is interrupted by a new 'snob screen,' 15, of brass rails and brilliant-cut flashed-blue and flashed-red glass in mahogany frames. A curtain screens the entrance. The glass panel, 6, between this and the Public Bar carries signwritten lettering designed to be read from both sides.

the public bar as might be expected is more austere; it has a plain boarded floor and perforated ply benches, 6, and relies on views of the Saloon Bar for colour contrast.

exterior The cornice above the fascia has been repaired and painted white, the fascia itself being painted dark green; bold fat-face Roman letters, in scale with the rest of the building, have been signwritten on to it, 12. (These 13-inch high



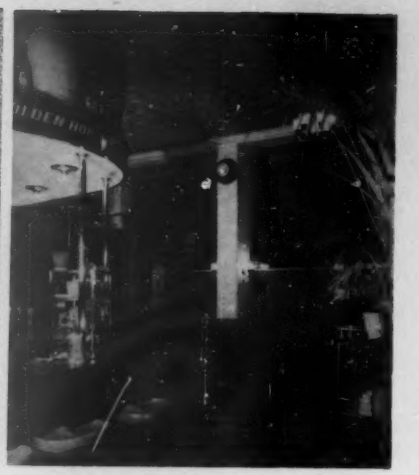
12

letters replace the old 6-inch emasculated standard Roman.) The letter face is white to harmonize with the cornice above, and is shaded in orange, outlined in gold and given two cast shadows in black and grey-green.

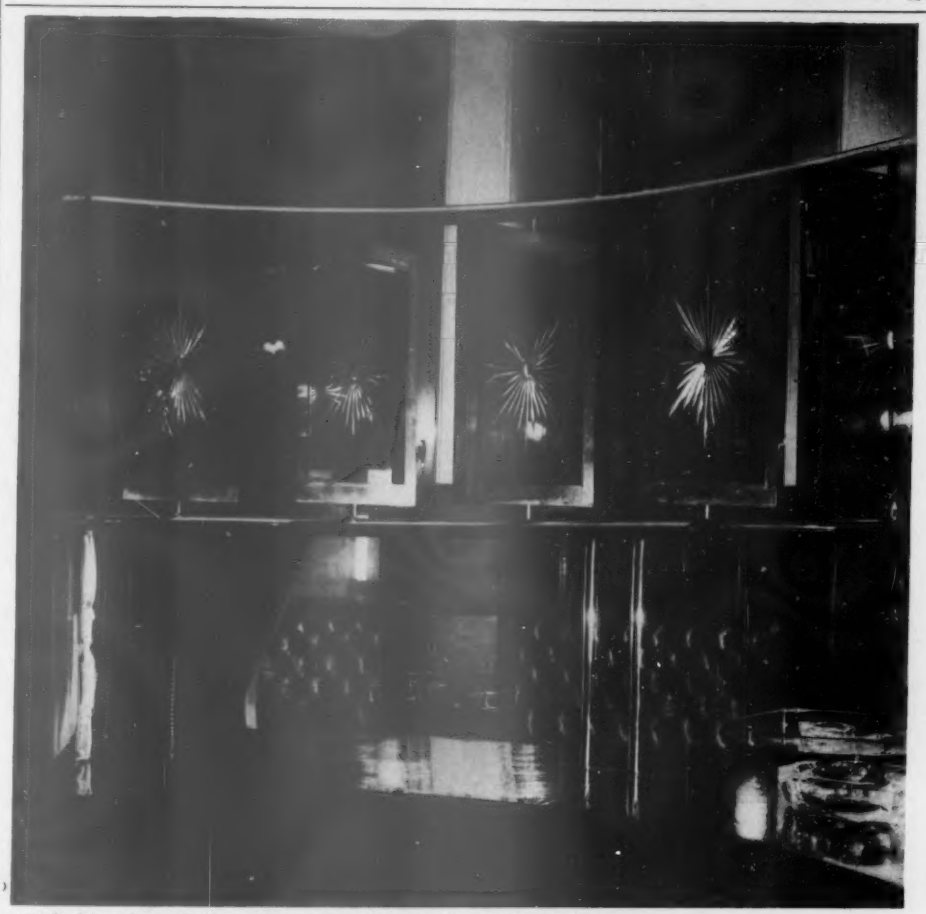
The quarter round stucco corner from the fascia to the top cornice of the building



13, *the saloon bar* **BEFORE**



14, *the saloon bar* **AFTER**



15, *looking through the newly-made snob-screen into the cosy bar.*



16, *first floor dining room* **BEFORE**



17, *first floor dining room* **AFTER**



had long been partly covered with a wooden panel carrying a quantity of small lettering. This has been removed and the new sign is painted directly on to the stucco. Only the name of the pub has been used, and it covers the full height of the corner in 30-inch Roman letters, 18, shaded to appear deeply incised in the stucco in black, white and tones of the background colour—warm grey. It is floodlit at night.* Rope mouldings, quoins and keystones are picked out in warm grey, black and white.

* Permission to display this sign was refused by the Local Authority on the ground that it would 'Adversely affect amenities' (sic). An appeal was made to the Minister of Housing and Local Government on the grounds that the sign was in scale and in keeping with architectural character of the building and that the colouring had been controlled to maintain a proper balance. The appeal succeeded.

3 TECHNIQUES

PASSENGER LIFTS

by John Voelcker

Although hoists and lifting devices have been used for many centuries, the lift as a recognisable mechanical type is only a hundred years old. Elisha Graves Otis, who is the father of the lift industry, went into business in 1853 *and installed his first* passenger *lift in a New York department store in* 1857. *The object of this review is not to give a history of this development nor to describe how a lift service should be designed, but to recount the basic elements of lift technology, adding to this a note written by a director of one of the leading British firms of lift engineers on the American and Continental lift-making traditions.*

general

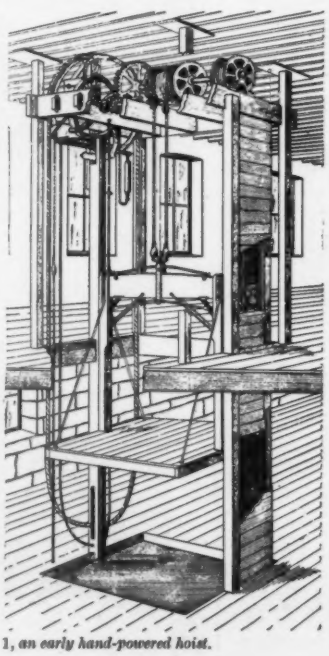
The modern lift installation is a complicated piece of equipment. Complicated because more rigorous standards of performance and safety have added a great number of ancillary components to the main assembly.

The main assemblies of the installation—machine, well and motor room—are straightforward and simply related to one another; in fact, if we except the 'Paternoster' and the hydraulic lift, the outline of lift installations has not varied greatly since the earliest beginnings a century ago. The illustration, 1, shows an early Centre Lift Hand-powered Hoist, which contains, in simple and robust form, all the essentials of the modern lift.

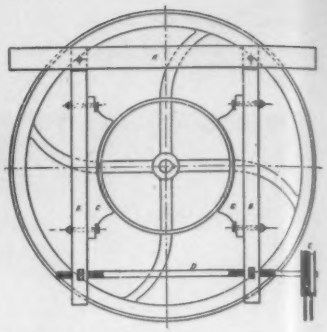
A strong sling structure supports the platform hoist; the suspension ropes are connected to the sling through an 'Equaliser,' a component which ensures that equal tension is maintained in the ropes at all times; and guide shoes which fit over the lift guide rails are fixed to each side of the sling at top and bottom. Frequently a safety device was incorporated in the sling structure below the platform (though not in this particular case), which in an emergency would grip the guide rails and prevent further movement of the platform.

Timber guide posts, usually built up from soft wood with the joints staggered so that the post was virtually continuous, were fixed vertically at the landings and ran the whole height of the platform traverse. Close-grained guide rails, often of maple, were planted on these posts with counter-sunk screws, jointed carefully and lubricated to reduce friction to the minimum.

Besides the guide posts and rails there was certain additional equipment in the shaft: a counterweight to reduce the overall loading on the drive, suspension ropes to both sling and counterweight, and safety gear roping which operated a wood block brake. The counterweight weighed as much as the platform and sling assembly plus half the design load on the platform; this ratio (which is still adhered to) having been found to provide the maximum economy of energy under all loading conditions. The counterweight was generally constructed of iron so that it could be relatively small in size and would not necessitate too large a well cross section. Suspension ropes were attached to the top of the counterweight. The safety gear consisted of a hand-operated continuous rope which passed over a sheave at the head of the well: a pull on this rope rotated the sheave shaft and engaged the wood block brake on the main driving shaft, 2. The brake could only



1, an early hand-powered hoist.



2, a wood shoe brake.

be released by pulling the rope in the opposite direction so that the sheave counter-rotated.

The driving gear was located at the head of the hoist well, and in this instance a drum-drive was employed. The suspension ropes from the platform sling were securely fixed to the drum surface. A second drum attached to the same driving shaft held the counterweight suspension ropes which were connected in such a way that the counterweight was lowered as the platform was raised.

In all essential points this lift prefigures the modern installation: you have only to substitute a steel structure for wood, to introduce an electric motor, and to add the refinements of levelling and door opening devices. Even details such as the safety rope and the wood block brake are reproduced, both in their form and in their essential action, in the 'idle line' and the electro mechanical brake used today.

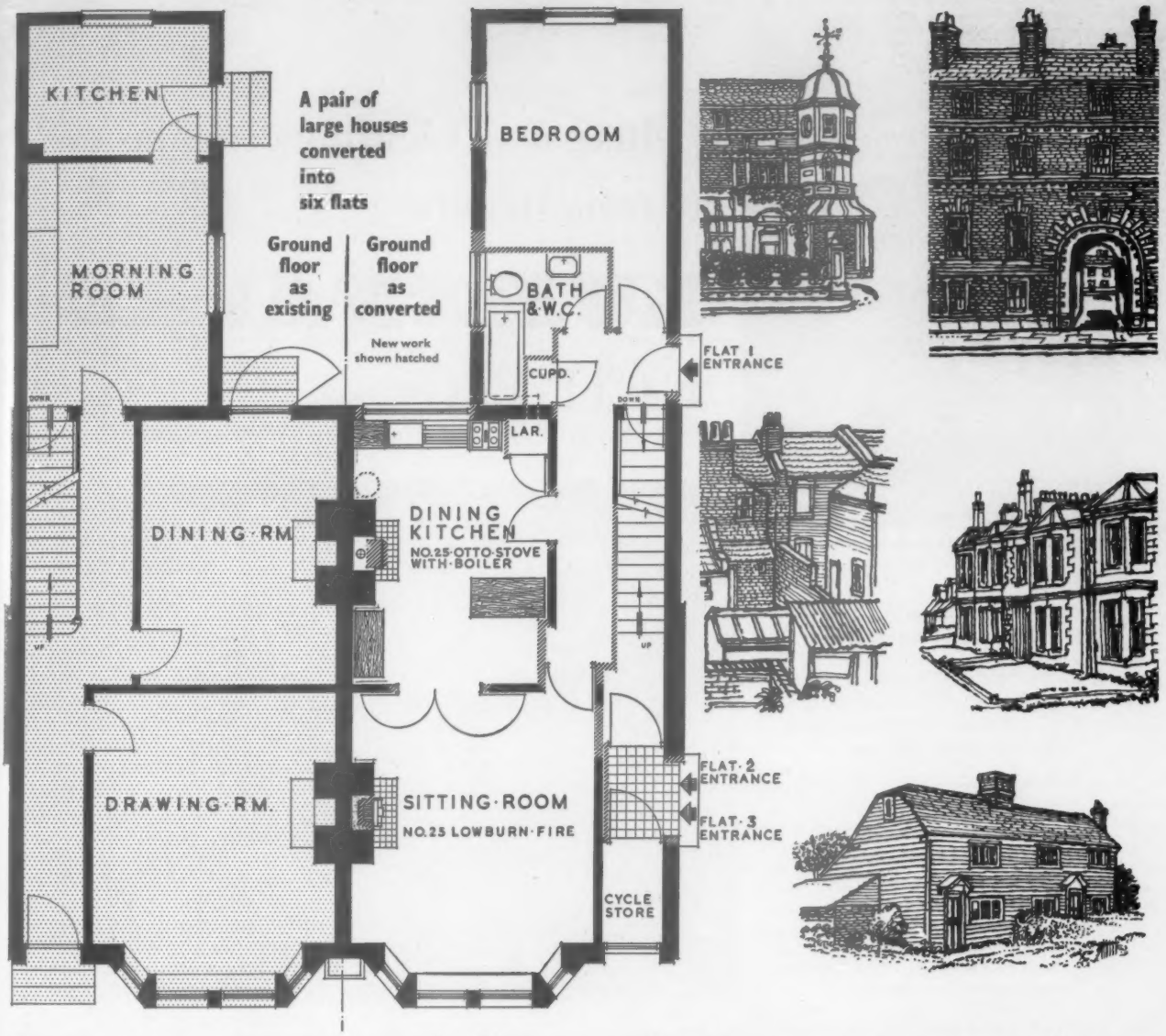
'Drum drive' is still used, though it has commonly been replaced by 'traction drive,' where a set of ropes passes *direct* from the car over a corresponding set of traction sheaves to the counterweight on the other side.

components

The hoist described above provides a framework on which the components of the modern lift can be classified and examined. Two major decisions determine the form of a lift installation: a decision about the speed, which involves the choice of a motor and of a mode of gearing and a decision about the lift car control. These two questions are, of course, inter-related, and together determine the average travelling time of the lift. It is not the intention of this article to discuss the calculations for these decisions: but merely to discuss the elements in the installation and the alternatives to which each is subject.

Logic suggests that a beginning should be made in the motor room, with the motor itself, the brake, such gearing as there may be, the traction sheave (or drum) and such of the controlling and selecting equipment as may be housed there: that we should pass then to a consideration of the car itself, taking in at the same time the subjects of control, of door opening, of landing and of safety devices operated from the car: and that we should conclude by

[continued on page 141



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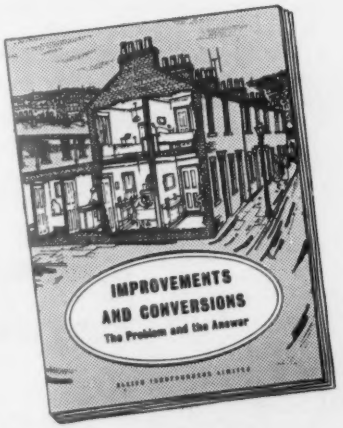
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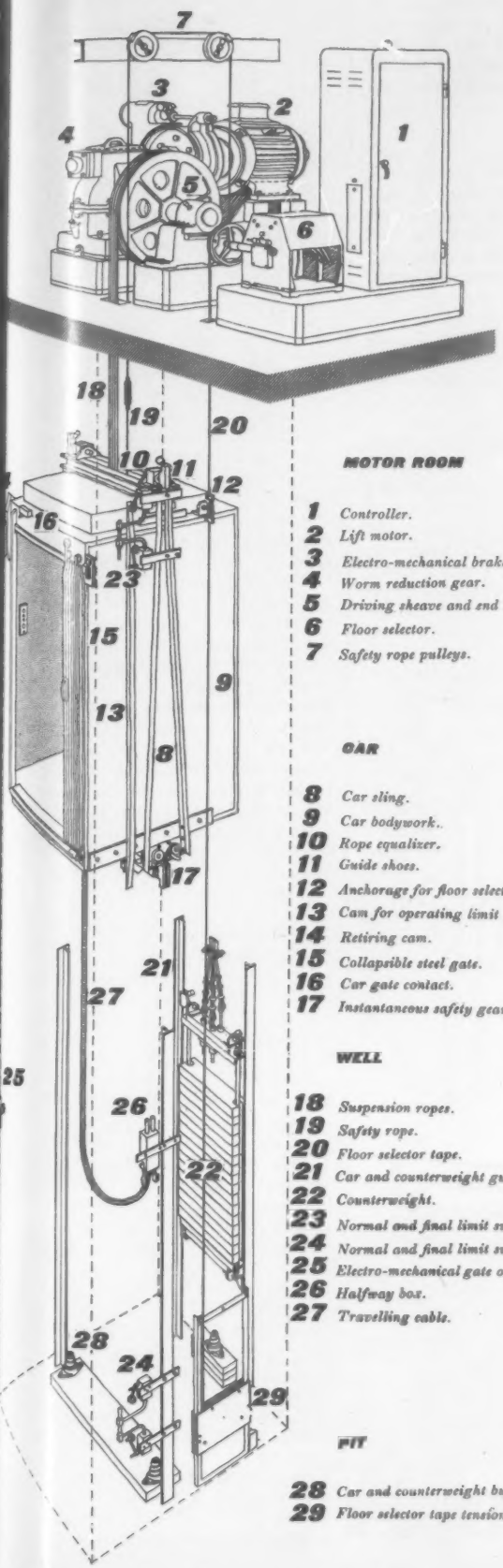
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L.4



MOTOR ROOM

1 *Controller.*
2 *Lift motor.*
3 *Electro-mechanical brake.*
4 *Worm reduction gear.*
5 *Driving sheave and end bearing.*
6 *Floor selector.*
7 *Safety rope pulleys.*

CAR

8 *Car sling.*
9 *Car bodywork.*
10 *Rope equalizer.*
11 *Guide shoes.*
12 *Anchorage for floor selector tape.*
13 *Cam for operating limit switches.*
14 *Retiring cam.*
15 *Collapsible steel gate.*
16 *Car gate contact.*
17 *Instantaneous safety gear.*

WELL

18 *Suspension ropes.*
19 *Safety rope.*
20 *Floor selector tape.*
21 *Car and counterweight guides.*
22 *Counterweight.*
23 *Normal and final limit switches (Top Floor)*
24 *Normal and final limit switches (Lowest Floor).*
25 *Electro-mechanical gate or door locks on landing.*
26 *Halfway box.*
27 *Travelling cable.*

PIT

28 *Car and counterweight buffers.*
29 *Floor selector tape tension weight and pulley*

Diagram showing the main elements in a lift installation.

considering components in the well, the guides, the suspension roping, the counterweight, the travelling cables and the levelling and timing equipment.

motor room

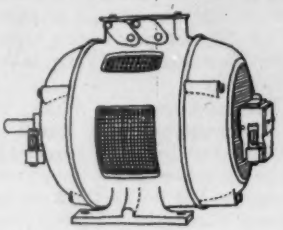
The Motor Room contains a quantity of expensive and delicate equipment. As a rough guide, the value of the equipment alone in the motor room of a block of flats can easily be £2,500. Adequate space is needed to maintain this equipment and facilities for lighting and the use of powered hand tools. Temperature and air condition must be controlled and remain stable within narrow limits and sunlight excluded ; otherwise the equipment will deteriorate.

There seems no doubt that the motor room should be placed at the top of the shaft whenever possible, for so placed the load on the structure may be reduced by as much as 40 per cent, and the least amount of suspension rope will be required: this last is a considerable saving, since ropes are an expensive item both in initial cost and as a maintenance liability.

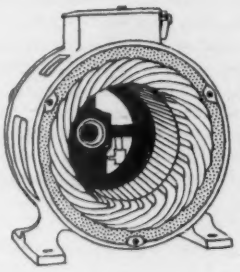
motors

The main issue concerning the choice of a motor consists in whether the speed is to be controlled mechanically (i.e., by gearing a motor which itself works at a fixed speed or speeds) or electrically by varying the speed of the motor by varying the voltage, or a combination of both. This is partly a matter of the speed required, partly a matter of cost: of speed because for speeds above 350 feet per minute the 'gearless' type of motor must be used; of cost because the gearless motor (which must be DC) requires a generator in addition. As though to make the matter more complicated, it is the AC motor which runs at a high speed and requires to be geared down, usually by a worm gear. The DC motor, on the other hand, is a low-speed motor and is coupled direct to the traction sheave of the lift: it is its ready and accurate response to changes in speed which make it suitable for high-speed lifts.

The simplest type of motor used for lift installations is the AC Single Speed High-Torque Squirrel Cage Motor, 3. It can be used to drive lifts up to a speed of 120 feet per minute when passenger controlled and 150 feet per minute when controlled by an attendant. The squirrel cage motor is very robust and therefore suitable for arduous service. The chief disadvantages are that it requires a very large starting current, often frowned upon by electricity undertakings, and that levelling the motor becomes difficult if it is over 5 h.p. because the radius of gyration is increased.



3, *a squirrel cage motor; above, in its casing, and below, the stator showing the mesh winding.*

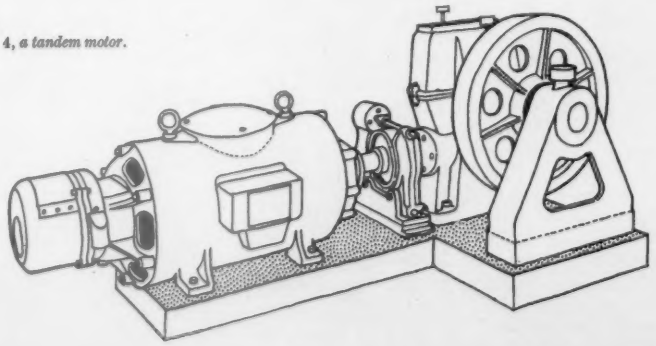


A variant of the motor just described, and suitable for the same speeds, can be made to give two speeds through the method of winding the stator. This two-speed arrangement is an advantage for levelling the car at landings, and the starting current needed is reduced by starting the lift on the low-speed winding. The ratio between the two speeds is generally 4:1, though ratios of as much as 6:1 have been used with success.

A second type of AC motor, the Slip-ring Motor, is often used for the same speeds as the squirrel cage motor. Although not as robust in construction nor so long lived it is smooth running, silent and requires a small starting current.

A motor assembly known as a Two-speed Tandem Motor combines a squirrel cage and slip-ring motor within a single frame, 4. The slip-ring motor is designed to start the lift and also to run it at full speed; the squirrel cage motor is used for levelling and stopping. The advan-

4, *a tandem motor.*



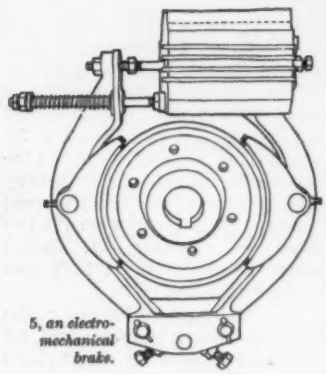
tages of this arrangement are that a low starting current is required, that levelling can be achieved easily, and that the speed ratio between the two motors can be as high as 6:1.

The most frequently used type of DC motor, and the only one suitable for driving lifts at speeds greater than 350 feet per minute, is the Ward-Leonard System Variable Voltage Motor.

The advantages of driving lifts and controlling their speeds by variable voltage motors are considerable: the motor control equipment is simple and as the electrical contacts do not handle the full power, speed changes are smooth, the starting current is low and the overall energy consumption is considerably lower than with other types of machine.

Mention was made earlier of the alternative of drum or traction drive. Drum drive has the disadvantage that, since the ropes are continuously flexed, wear is very heavy; furthermore, it is unsuitable for shafts of more than four storeys, since the drum itself becomes unmanageably large. In practice, drum drive is only used if the loading on the car is very large and the traverse is very short.

Whatever the motor and whatever the drive, all lift engines are fitted with an electro-mechanical brake



5, an electro-mechanical brake.

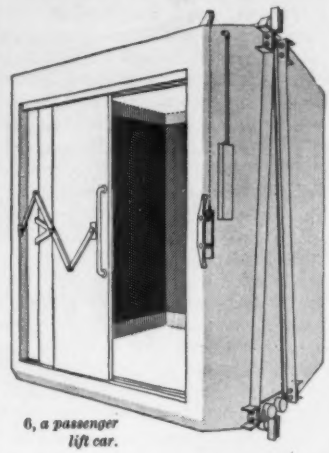
which varies little in design, 5. It is designed to exert a permanent grip on the shaft, a grip which is released electrically when the lift car is set in motion. On any failure of the supply, therefore, it moves instantly into the 'on' position.

central controller

This is an assembly of intricate equipment in which all lift motion is effected and co-ordinated. It contains contactors, relays, resistances and fuses, together with considerable auxiliary equipment for regulating the timing of related movements, and may operate in conjunction with a mechanism for selecting the floors in response to calls. The central controller equipment is mounted on an insulating board and enclosed in a pressed steel case. Equipment is likely to deteriorate if the light, temperature and air condition in the motor room is not controlled within fine limits.

the car

A great deal of equipment is attached to the lift car, some of it externally, some to the sling, and some, principally control equipment, inside the car. Like the early hoist described, the main loadbearing component is the platform; the bodywork of the car, constructed of



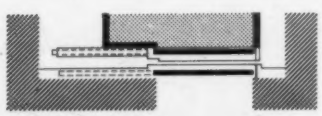
6, a passenger lift car.

timber, sheet steel or aluminium alloy, is built on to the platform and both are secured to the steel sling, 6. PWBS No. 9 recommends five lift capacities, for 6, 8, 10, 15 and 20 people. The floor area varies indirectly to the capacity, but as a guide, 1.9 square feet is recommended for a 10-person car. If the lift is attendant operated, the attendant should be given double the unit area so that he has room to manipulate the control switch and also the doors if they are not power operated. The clear height within the car should not be less than 6 feet 6 inches. Structurally the walls should be capable of resisting an impact of 75 lb. applied normally at a point; the use of aluminium alloys has recently been found successful for it combines adequate strength with lightness and easy maintenance.

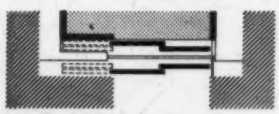
doors

Lift doors have been the subject of considerable technical attention. They must be extremely accurate dimensionally, robust—for they have arduous service—and yet easily operated whether by hand or by motor.

The doors themselves are constructed of timber, steel or aluminium; the solid type are more satisfactory than the picket type for there is less danger of trapping the passengers or their effects. Vision panels are often required,



7, single sliding leaf doors.

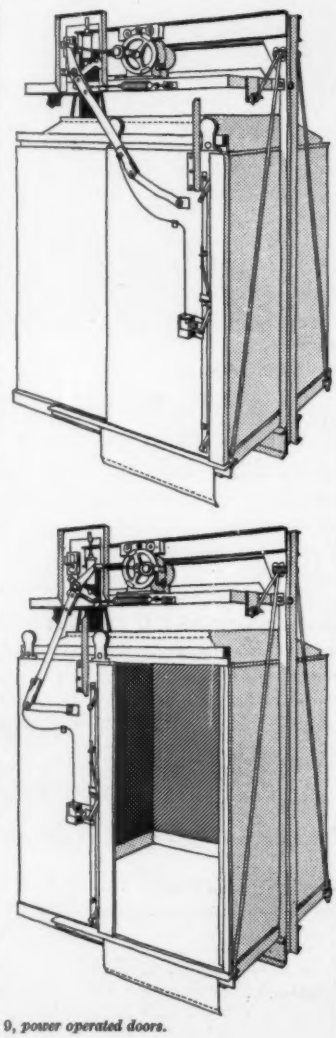


8, double two-speed sliding doors.

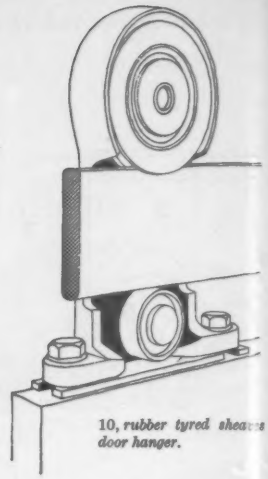
but these add appreciably to the cost. Hinged doors are sometimes used on the landing openings, but as these cause some danger to people in the passage, sliding doors are most common. There are several arrangements possible: a single sliding leaf door, 7, a double leaf door, in which both leaves slide to one side, but the outer one moves at twice the speed of the inner one, 8, or centre opening doors.

The most important piece of equipment associated with lift doors is the inter-lock, an electro-mechanical device which ensures that the lift cannot move until both car and landing doors are locked in position. Sometimes a special piece of electrical equipment which breaks the main power circuit is connected with the lock; sometimes the circuit is made and broken directly by the door lock beak and the door post catch. It is essential that the fixing of this piece of equipment should be invulnerable to misuse.

Another piece of equipment frequently employed couples landing and car doors together when a stop is made, and a single power unit moves the doors simultaneously. The motor used for power-operated doors is mounted on the roof of the car; its shaft revolves and operates arms which are attached to the



9, power operated doors.



10, rubber tyred sheaves on door hanger.

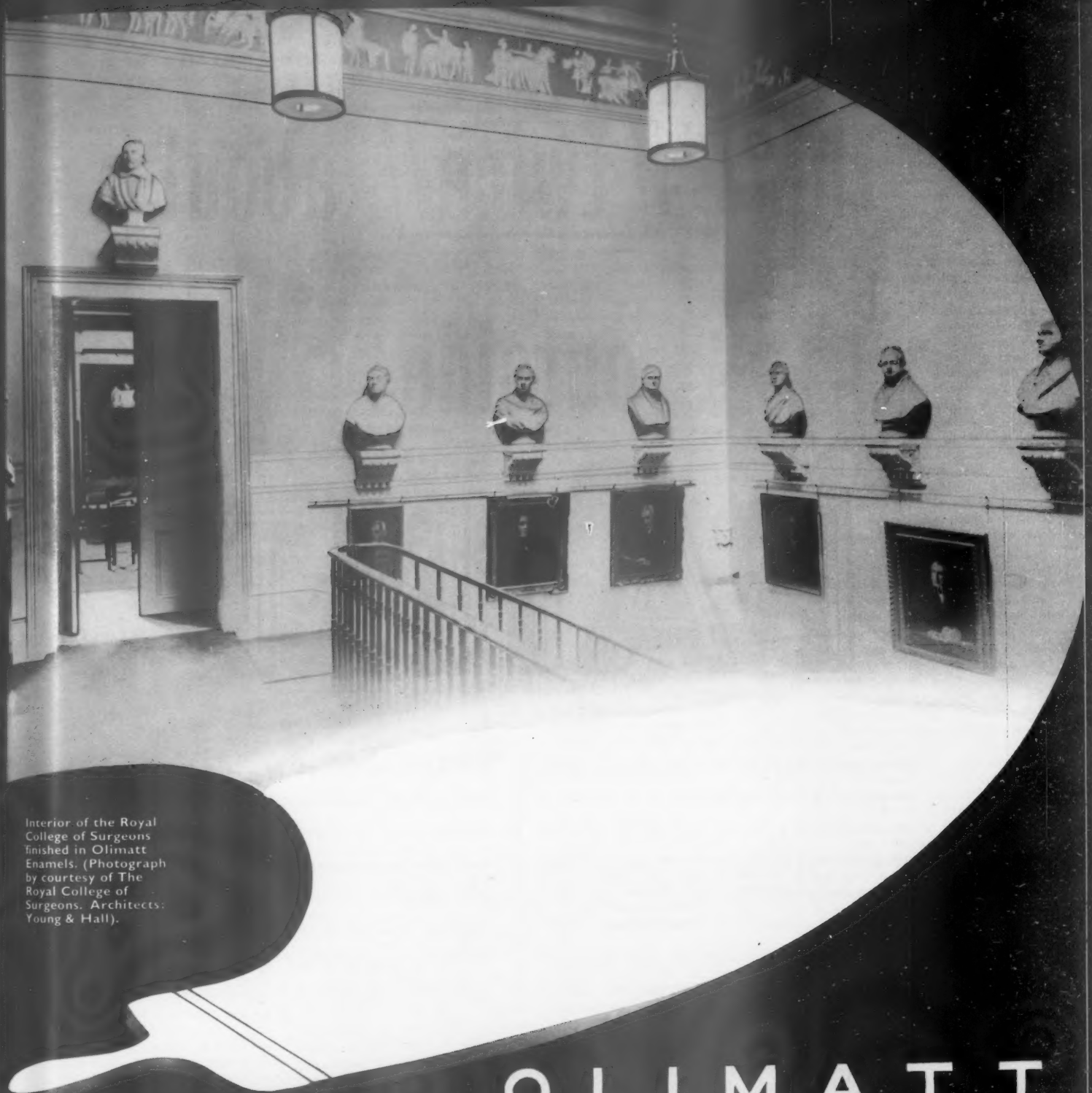
doors, 9. Variation of door speed is achieved through the arrangement of these arms: for instance, the speed may be decreased towards their closed position by a simple harmonic coupling of the arms to the motor shaft. The time taken for the cycle of power-operated door movement is very important, especially in high-speed lifts where all advantage may be lost if the movement is slow or mishandled. A great deal of research and experiment has gone into the design of efficient timing equipment to control the whole cycle. In addition to this equipment, some doors are provided with checking devices which operate when, because of obstruction, the cycle is interrupted, 10; a common form of this is to fix a sensitive strip to the leading edge of the doors. When this meets an obstruction within a 90° arc it reverses the door cycle so that the obstruction may be cleared.

car and landing control

The simplest form of control equipment in use is known as 'Car Switch Control.' This consists of a car switch handle placed in a convenient position in the lift car and operated by an attendant. There is a push button at every landing station by which prospective passengers may call the attendant, and this landing push usually operates a visible and audible signal in the lift car. A variation of this method of control is often used so that the attendant does not have to waste too long levelling the car platform at landings, and this variation is known as 'Auto-Stop'; the attendant switches off his control switch on approaching a landing and an automatic levelling device brings the lift to an accurate level.

'Automatic Push Button Control' is perhaps the most familiar equipment. A panel of buttons, corresponding to the landing stations served by the lift, is fixed into the lift car, and a landing push is provided at each landing. On entering a lift the passenger presses the appropriate button and the lift carries him to that floor. For lifts controlled in this way and operating at speeds greater than 120 feet

[continued on page 143



Interior of the Royal College of Surgeons finished in Olimatt Enamels. (Photograph by courtesy of The Royal College of Surgeons. Architects: Young & Hall).

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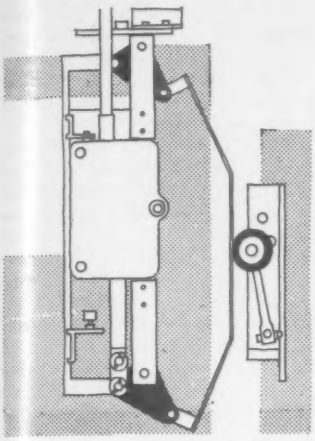
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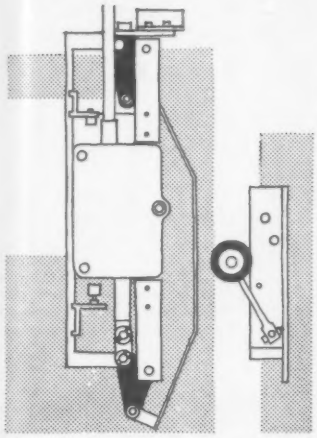
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per minute automatic levelling devices must be used. Another device is frequently used to prevent the car being interrupted in its journey to answer or satisfy a call previously registered: a retiring ramp is fitted to the outside of the car and is restrained electrically until the desired station is reached, at which point it is released, comes forward,



11, operation of retiring ramp; above, extended, when the lift is to stop at a floor, and below, withdrawn.



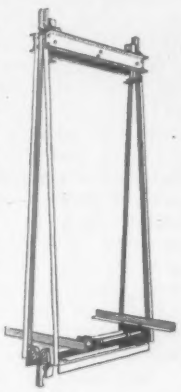
makes contact with equipment in the well, and allows the doors to be opened, 11. This device is very useful as it prevents the undesirable practice of would-be passengers snatching the car as it passes a landing.

A more elaborate method of control normally used in large high-speed installation is known as 'Collective Control': a panel of push buttons is located in the car and two push buttons, one up and one down, are placed at each landing station; a central control panel in the motor room registers calls from both car and landing stations and stores them, and the lift responds in the floor sequence following its direction of travel until all the calls registered have been answered. Normally a switch is provided so that the control may be taken over by an attendant at peak periods of traffic. When only a single lift is controlled in this manner the system is known as 'Simplex,' but two or more lifts may be connected together so that they operate as a single unit, these systems being known as 'Duplex,' 'Triplex,' etc. An elaboration of collective and push-button control is to fit a homing device which causes some of the lifts in the unit to return to the ground floor when not in use and the remainder to travel to the topmost landing. In this manner the lift installation is primed ready for subsequent calls.

Apart from the normal car controls described, an alarm signal is provided, which rings a warning bell to attract the attention of the lift supervising staff. It is important that this alarm should be connected up independently of the main electrical circuits, for it is generally required when these are out of action.

safety devices

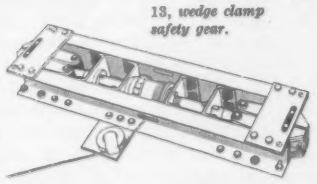
In case the suspension ropes should break or stretch, or in the event of the car exceeding its regulated speed on account of some defect, a robust mechanical safety gear is built into the understructure of the car sling beneath the car platform, 12. This gear extends the whole width of the sling and can be made to grip the guide rails, so bringing the car to a stop. Two forms of gear are employed. For slow lifts an idle line connects the safety gear over a pulley at the top of the shaft to the counterweight. If this line tightens, due to main rope fracture or stretch, a shaft in the sling mechanism is rotated and closes the grip mechanism on the guide rails. For higher speed lifts an overspeed governor comes into action and tautens the safety rope through a geared assembly.



12, car sling.

An instantaneous guide grip is used in lifts whose regulated speed does not exceed 200 feet per minute: two eccentric cams with serrated edges are connected to the safety gear shaft, and these bite into the guide rails and stop the car within a few inches. In higher speed lifts, where a sudden stop might injure passengers and damage lift equipment, a wedge clamp is employed, 13;

13, wedge clamp safety gear.



this clamp exerts an increasing pressure on the guide rails, so bringing the car gradually to rest. In cases where it has been necessary to use the safety gear the guide rails must be checked to ensure that they remain plumb, and the grip marks must be removed by filing, since any irregularities in the guides would seriously impair the mechanical running of the lift.

the well

The lift well extends from the bottom of the lift pit below the lowest floor served to the motor room. It contains a quantity of equipment, some mobile and some static. It is of the utmost importance that there should be adequate space in order that the moving equipment, which includes the lift car itself, cannot foul any projections or components on the well walls, and inspection, maintenance, and repairs can be carried out easily and swiftly. It is in the well dimensions that architects so frequently compromise the lift manufacturer without realising the extent to which they may be impairing lift efficiency and increasing the cost of the installation.

ropes

The suspension ropes are fixed to the top centre of the car sling through an Equaliser similar to the one described earlier. There are usually four ropes, their manufacture, quality and strength being covered by British Standard Specifications. The ropes pass through a slit in the motor room floor, over the driving equipment and down through the floor again to the counterweight. Idler sheaves are introduced to direct the ropes into their correct positions vertically over the car and the counterweight.

counterweight

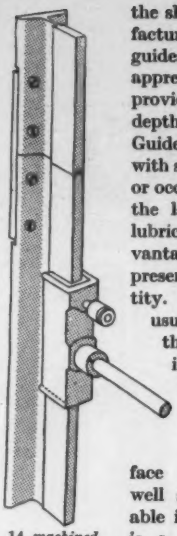
The counterweight runs up and down guides at one side of the lift well. Usually it is an assembly of side members into which grooved weight bars are slotted and the required number bolted up tightly.

travelling cables

The travelling cable connects the car controls with the central control panel situated in the motor room. This cable connects to the underside of the car and is securely fixed to the shaft wall at a point half way up. Some manufacturers provide a junction box at this point, but recent experience seems in favour of making the cable continuous from car to central control, and passing through a piece of conduit in the motor room slab so that renewal can be easily accomplished.

stationary equipment

Buffers, of the steel-spring type for slow-speed lifts and of the oil-filled type for higher speeds, are provided in the lift pit. Steel guide rails run the height of the lift well to which the shoes at top and bottom of the car sling fit tightly. The most satisfactory guide rail section is a T-form, 14, for this provides the greatest grip area for the shoes; some manufacturers use round guides, but it will be appreciated that these provide a smaller grip depth for the shoes. Guide shoes are lined with steel, bonded fibre or occasionally carbon, the last requiring no lubrication — an advantage when dust is present in any quantity. Provision must usually be made in the well for carrying the main electricity supply cables to the motor room; a duct with its face flush with the well side and removable inspection panels is a satisfactory arrangement. For maintenance purposes a lifting beam is provided at the lift well top, which should be strong enough and so placed that the entire car assembly may be suspended from it during re-roping.



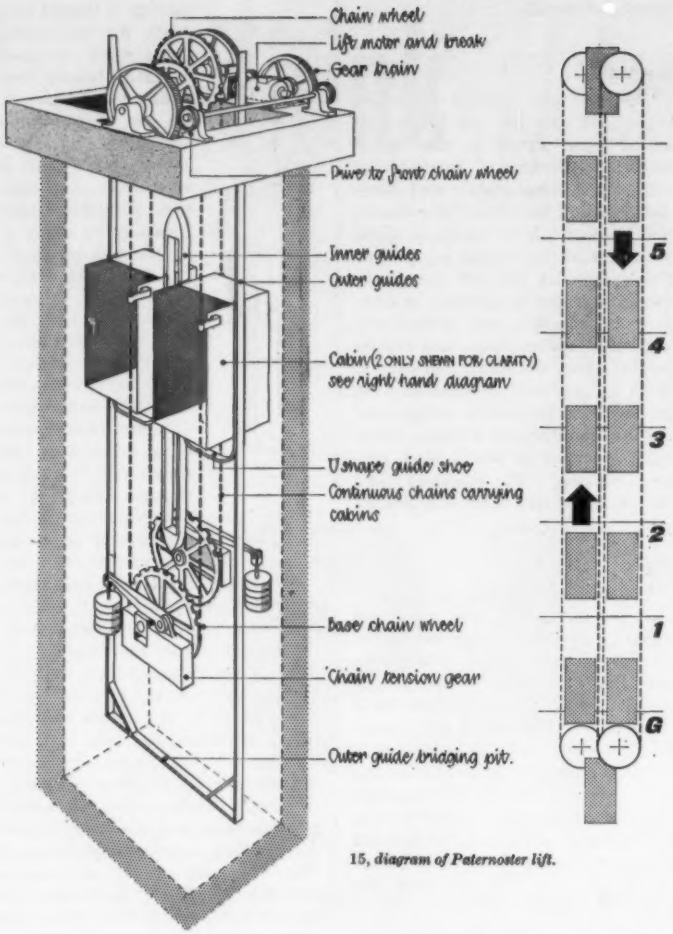
14, machined T guides and slipper.

The remaining pieces of equipment distributed about the shaft interconnect with components fixed to the car assembly. At top and bottom of the well there are Limit Switches which automatically cut off the lift motor in the event of the car overtravelling in either direction. At every landing there are components whose purpose it is to control the levelling, stopping and timing of the car and door movements. Recently electronic equipment has been introduced for these operations with satisfactory results: levelling can be achieved within a tolerance of ¼ inch of the landing levels, the noise associated with electro-mechanical devices is eliminated, and there is no wear since there is no physical contact between moving parts.

conclusion

The history of the last twenty-five years or so of lift manufacture shows a continual process of refinement, in which new standards of comfort (or at least of expedition) have been accompanied by new standards of safety. One unfortunate result of this has been that the cost of lifts has gone up out of proportion to the cost of the buildings in which they must be installed; which is perhaps another way of saying that lifts, which began as a luxury, have now become a necessity and have still to undergo the cost fining down which necessities require.

Since all installations are still purpose made, one of the first sources for possible economy is standardization. Another is, perhaps, to re-examine the whole question of the kind of lift service that we customarily require. One manifestation of this is the revived interest in the 'Paternoster,' an early lift type which has enjoyed a continuous vogue on the Continent but which



15, *diagram of Paternoster lift.*

has only recently been put on the market again over here, 15.

An endless chain of cars, each able to carry two people, continuously moves at a speed of about 60 feet per minute; no doors, no system of car control, and no floor registering devices are necessary; it therefore dispenses with the bulk of conventional lift equipment. In addition to this advantage, the initial and maintenance costs and, given suitable traffic, running costs as well are lower. Against these advantages, however, it will be appreciated that the 'Paternoster' is suited to rather special circumstances: continuous inter-floor traffic in buildings which are not too high, and that passengers must become accustomed to using it.

A second proposal which has been touched on already and which is also discussed in the note on the national lift traditions is the abolition of the car door. The technical difficulty here lies in the fact that the cost of providing the smooth wall face which the proposal implies offsets some of the saving and demands that the general contractor should work to a closer tolerance than he is accustomed to. Against this it may be ventured that a move which compelled the general contractor to enter into closer sympathy with the lift manufacturer might well be to the good. In this connection we recall the Luchtbal flats in Antwerp, where the lift installation (with service ducts built into it) determined the tolerances for the structure.

One last factor which certainly bears on costs is the circumstance that the British lift industry still reproduces the pattern of nineteenth-century enterprise, with a surprisingly large number of small firms who all do good work (for they have all the Victorian virtues) but who operate in isolation. This state of affairs is, of course, reflected in the slow progress of standardization. Without wishing to countenance a 'ring,' it would seem that much could be done by co-operation, perhaps through strengthening and developing the Lift Manufacturers' Association. This is an issue which should concern everyone, and not only the trade. For the lift is a critical element in a whole conception of architecture. It would be a pity if the high incidence of cost were to continue to inhibit the right structural solutions.

a note on the American and Continental lift traditions

The world of lifts, like the world of many other branches of engineering, is shared between three clearly marked traditions: the American, the British and the Continental. In this note one of the directors of a British lift manufacturing firm discusses the salient characteristics of the two other traditions.

The American lift differs from the English and the Continental chiefly in point of lift size and lift speed. The origins of this difference are not far to seek and are found in the exceptional requirements of Manhattan Island from the 'seventies onwards. What this tradition means in practice can be readily seen from the American Standard Safety Code for Elevators. Looking at this standard we see that a 'small' lift is rated at 1,200 lb., the equivalent of eight persons, while normal lifts are 2,000 lb. (13 persons) and larger.

One of the chief effects of this is that the American Safety Code prevents the use of a small lift machine which could be used for loads of 4 to 6 persons, yet such a machine is very economical and is the basis of most of the small lifts in Europe and other countries where there is a demand for small lifts.

United States influence in the design of lifts is particularly strong in South Africa, South America and Canada, and in these countries architects have been 'trained' to plan for lifts on a much larger scale than we should consider necessary in this country, although some of the buildings may not be particularly large or tall. This gives a high grade of lift service, but increases the cost of building.

Another characteristic of American practice is a strong preference for the gearless lift. This preference is, of course, the natural result of tall buildings and high speeds. There is much to be said in favour of the gearless lift on the score of comfort and running cost, but there is no doubt at all that it adds considerably to first cost.

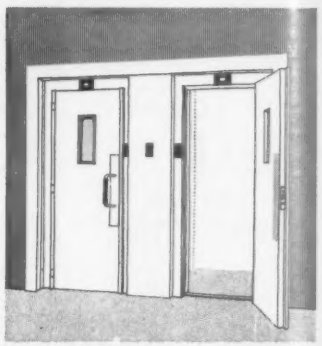
continental lifts

If the American tradition differs in point of speed and size, the Continental tradition differs mainly in an attitude towards safety. It would be an over-simplification to infer from this that Continental lifts are necessarily less safe in ordinary use: it would be closer to the truth to say that they leave more to the passenger's imagination. It is characteristic of the Continental attitude that the 'Paternoster' (mentioned in the earlier article) should have been in continuous use there, for the 'Paternoster' when it is operating has no doors at all and the characteristic of Continental lifts which will most strike an English user is their tendency to omit the car door, 16 and 17. With this arrangement the passenger in the lift is confronted with a moving wall, which must be absolutely smooth and free from all obstructions.

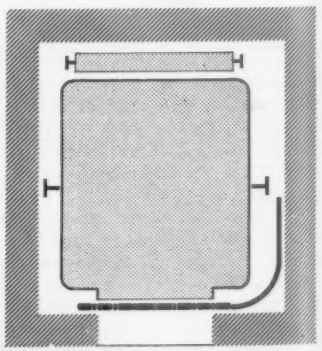
It is interesting to notice that British lift manufacturers are prepared to contemplate this economy, though it remains to be seen whether the British public would be prepared to accept it.

The Continent still favours very small lifts. Whereas American practice has set the lowest standard at 13 persons and British practice has compromised at 6 to 8, Continental manufacturers offer standard sizes to carry as few as 2 persons with graduations in 3, 4, 5 and 6.

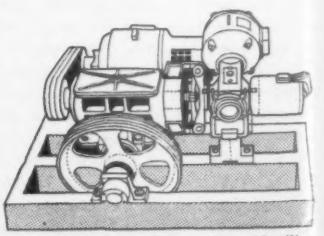
Continental manufacturers also tend to make greater use of two speed, double motor systems as against 'variable voltage.' In Great Britain, as we have seen, 'variable voltage'



16, *a French hinged landing door, flush on the inside of the well for use where there is no door on the car. A movable car sill is used to prevent any possibility of pinching between the car and the landing.*



17, *a Swiss automatic flexible landing door, also for use where there are no car doors.*



18, *a French solution to the problem of levelling, employing a 'gyro-brake' operated by a second motor. The Gyro-Brake and its separate motor are on the right.*

[continued on page 145



E. C. M. Lift installed in the Equitable Buildings, Manchester. Architects: Messrs. Halliday & Agate.



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motors are always used for speeds above 300 feet per minute; but on the Continent two speed, double motor drive is used up to 400 feet per minute.

Lastly, where English and American manufacturers mostly use specially rolled and machined T-section guide rails, many Continental manufacturers still use round guides for the car and strained wires or unmachined Tees for the counterweight.

electric supplies

One of the most serious differences between lifts in different countries is the widely differing types of AC supply which are now available. While electric supply has been standardized in many parts of the world, there is no international agreement on the nature of the supply and wide variations are found, making standardization of machinery almost impossible. In Britain we have standardized on a 3 phase, 50 cycle supply of 415 volts, and electrical equipment is usually made to operate over a range of 380-420 volts. This range includes a great many countries where British capital and influence has predominated and where the electric supply is based on our system.

In the United States the most usual 3 phase AC supplies are at a higher frequency of 60 cycles with a voltage of 220, and in Canada voltages of 550 and 575 are common, in addition to 208. In Egypt and in Jamaica 40 cycles supplies are found, and in some parts of the Middle East the power voltage is as low as 190.

It will be noticed that these differences in supply, though they are critical for the geared motor using an AC supply, are less critical for the variable voltage gearless motor, since this uses a motor generator set to convert the incoming voltage, whatever it may be, to a standard DC current.

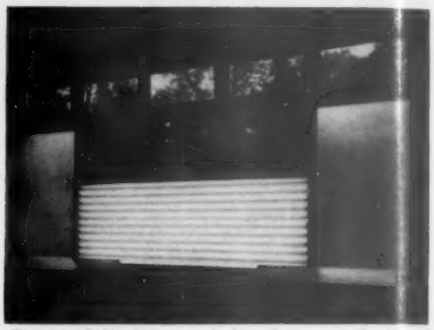
19, a Swiss machine room for three lifts. All the control mechanism is enclosed in the steel cupboards on the left. Notice the hard anti-dust finishes.

Lifts shown in the illustrations were manufactured by the following firms: 3 and 14, The Express Lift Co. Ltd., 4, 11 and 12, Bennie Lifts Ltd. 5, Pickerings Ltd. 6, Jensen. 9 and 10, Waygood-Otis Ltd. 13, Marryat & Scott Ltd. 15, J. & E. Hall Ltd. 16, Baudet, Donon and Roussel. 17 and 19, Swiss Car & Elevator Manufacturing Corporation Ltd. 18, Edoux Samain.

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'Saropane' let into a window frame at the Royal College of Surgeons.

resin. In 'Saropane'—which is slightly the cheaper product—the glass laminate comprises lengths of glass fibre random laid, and in 'Sarolite' it is a woven glass-

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fibre cloth. These sheets have been accepted in principle for factory roofs by the Fire Department of the LCC, provided each sheet is surrounded on all four sides (i.e. in the same plane) by incombustible sheeting. 'Saropane' is manufactured in two weights, 'Sarolite' in one, and both are made to nest with every type of sheeting in common use. They appear to be well tested products and in any case they have behind them the experience of a firm which has its origins in the more exacting aircraft industry. Manufacturers are: *Saro Laminated Wood Products Ltd., Whippingham, Isle of Wight.*

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Offices at 111, Westminster Bridge Road, S.E.1. *Architect:* R. N. Wakelin. *General contractors:* Richard Costain Ltd. *Sub-contractors: demolition:* Highfield Road Demolition Co. *Dampcourses:* William Briggs & Sons. *Asphalt:* Permanite Ltd. *Bricks (golden brown):* Proctor & Lavender Ltd. *Artificial stone:* Atlas Stone Co. *Stone:* Fenning & Co. *Fireproof construction:* Costain Concrete Co. *Exterior spandrel panels and tiles:* St. James' Tile Co. *Special roofings:* Noelite Ltd. *Partitions:* Gyproc Products Ltd. *Glass:* E. A. Hetherington Ltd. *Patent glazing:* Mellowes & Co. *Linoleum:* E. J. Elgood. *Central heating:* Young, Austen & South Ltd. *Gas fixtures:* William Sugg & Co. *Boilers:* Ideal Boilers & Radiators Ltd. *Electric light fixtures:* Merchant Adventurers Ltd.; G.E.C. Ltd. and S.L.R. Electrics Ltd. *Kitchen equipment:* Lockhart Equipment Ltd. *Sanitary fitting:* John Bolding & Sons. *Door furniture:* Pryke & Palmer Ltd. *Casements and window furniture:* Crittall Manufacturing Co. *Telephones:* Communication Systems. *Folding gates:* Dennison, Kett & Co. *Fireproof doors:* Jayenbee Joinery Ltd. *Iron staircases:* H. & C. Davis & Co. *Letter chute:* Nash & Hull Ltd. *Sunblinds:* H. H. Martyn & Co.; H. & C. Davis & Co. *Joinery:* Richard Costain Ltd.; Kings (B.D.J.) Ltd., and Adams & Co. *Marble:*

[continued on page 150

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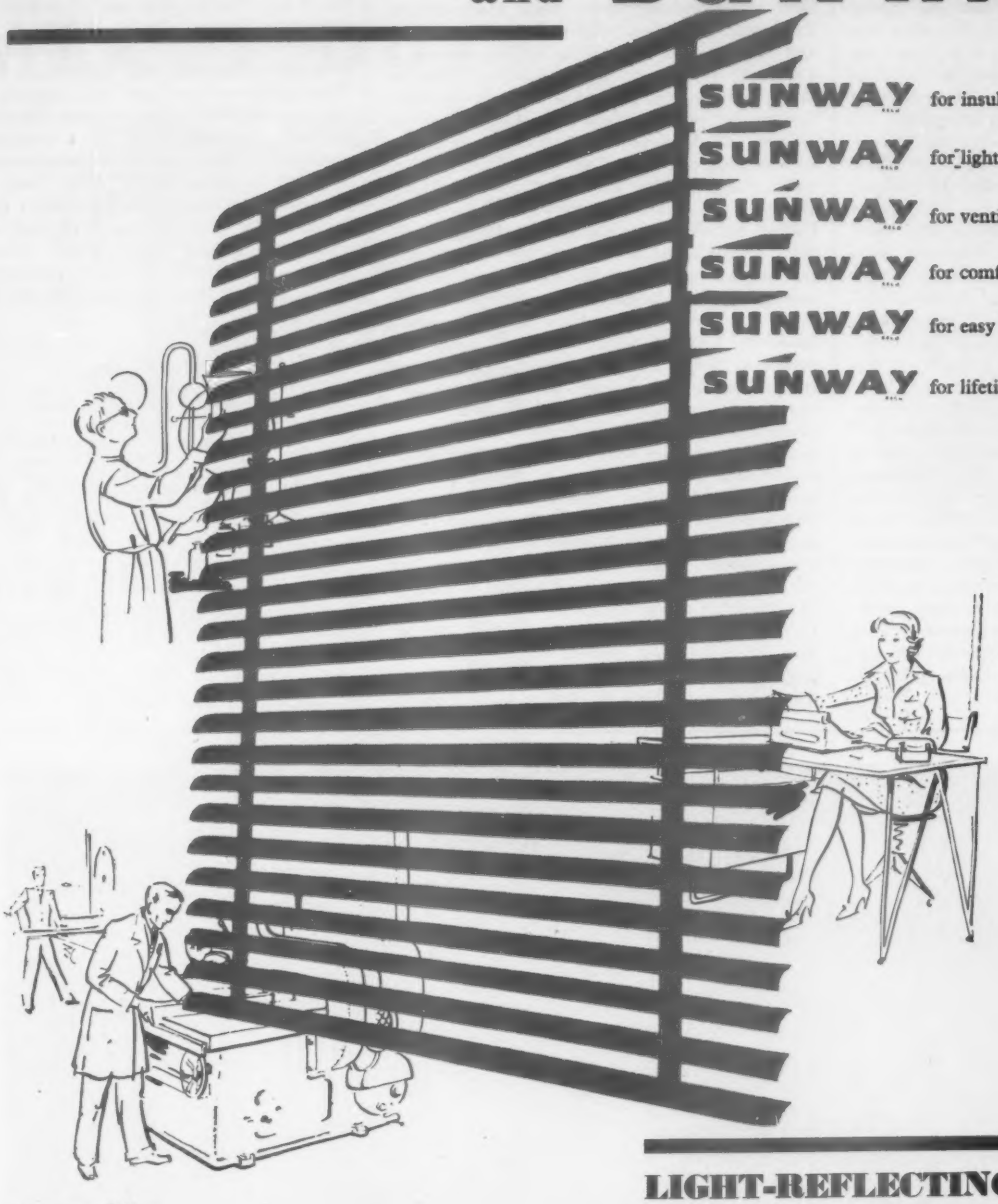


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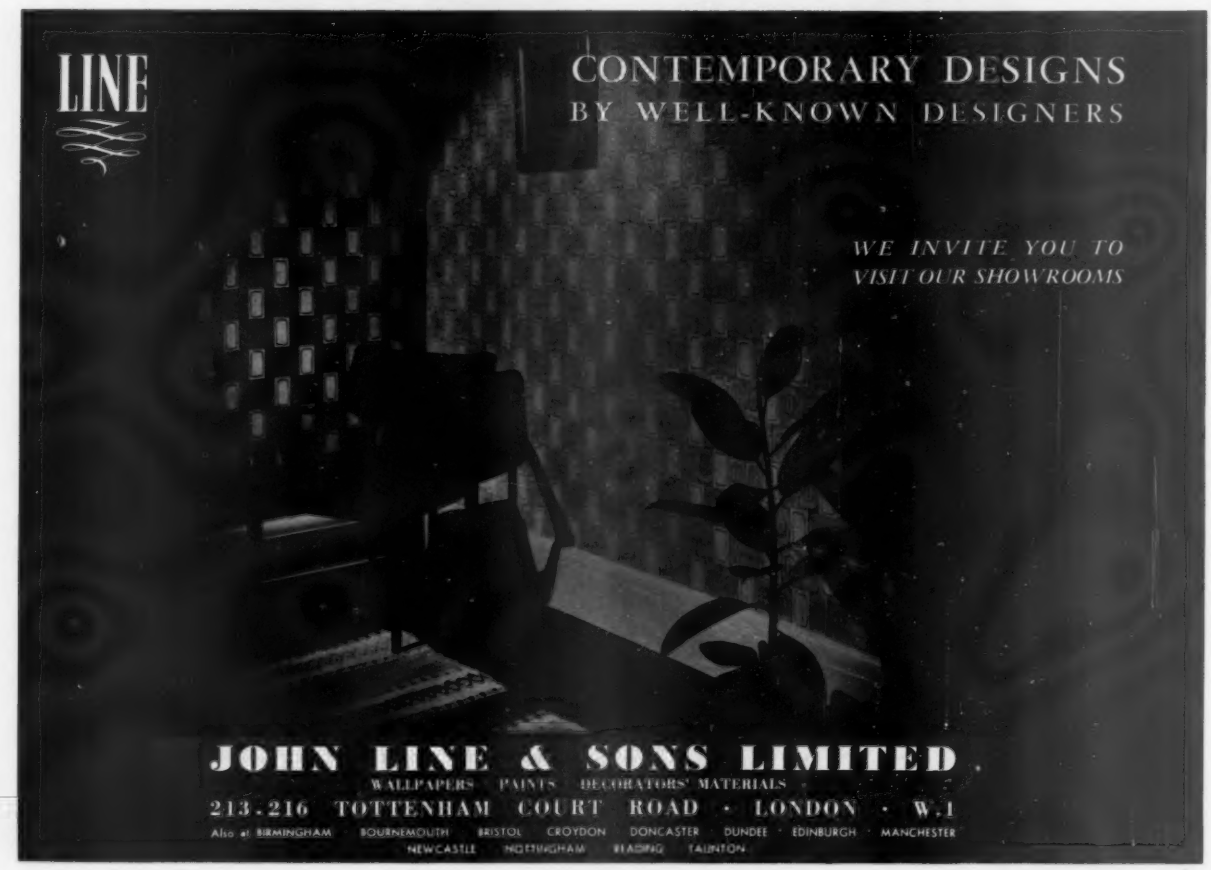
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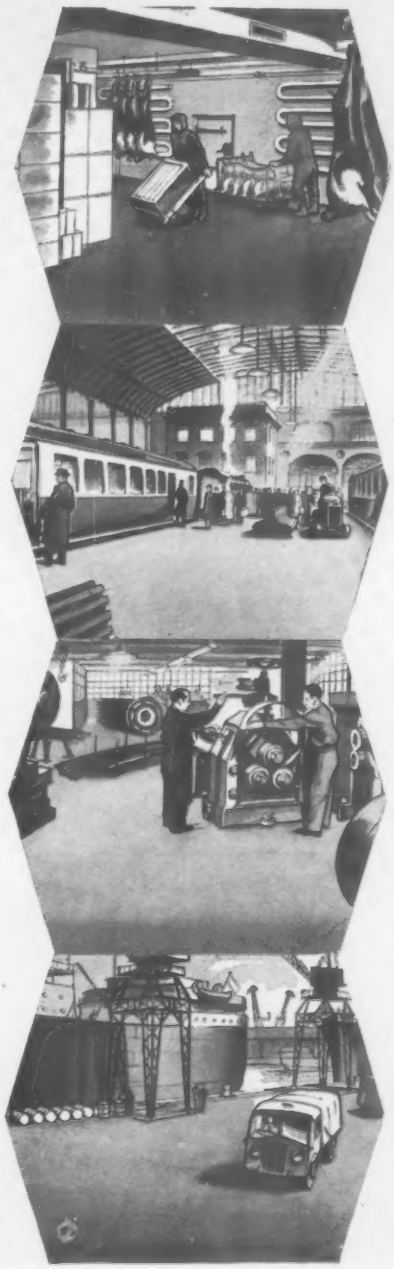


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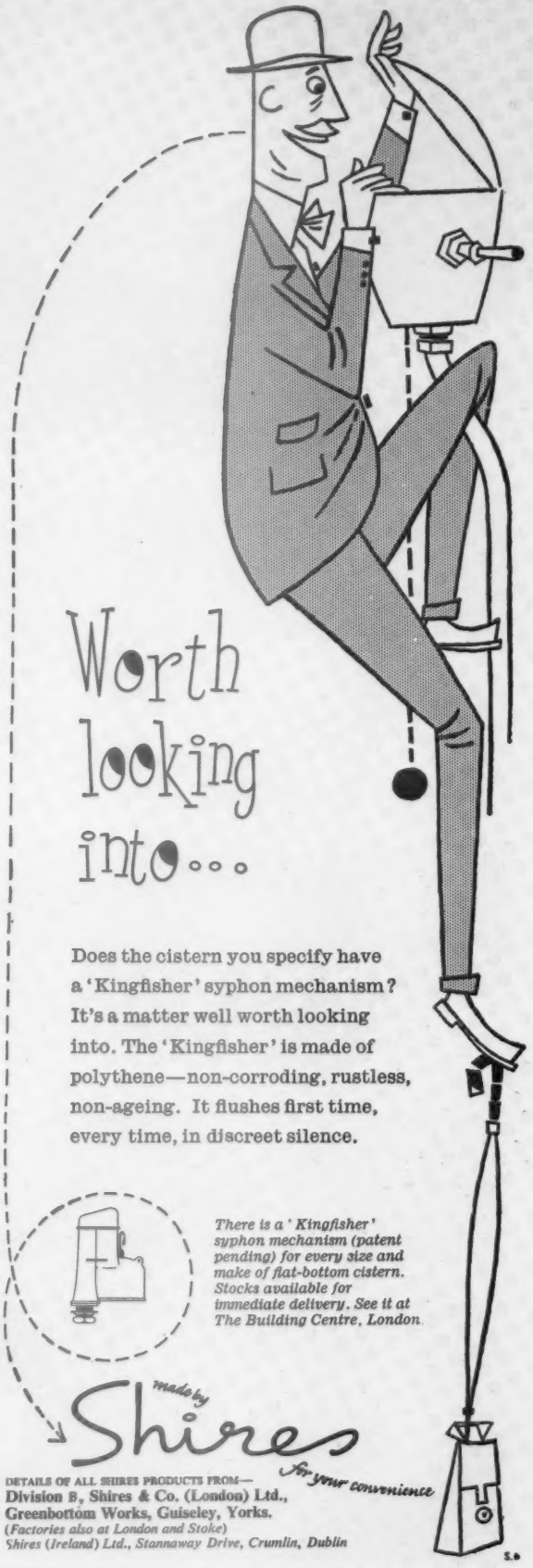
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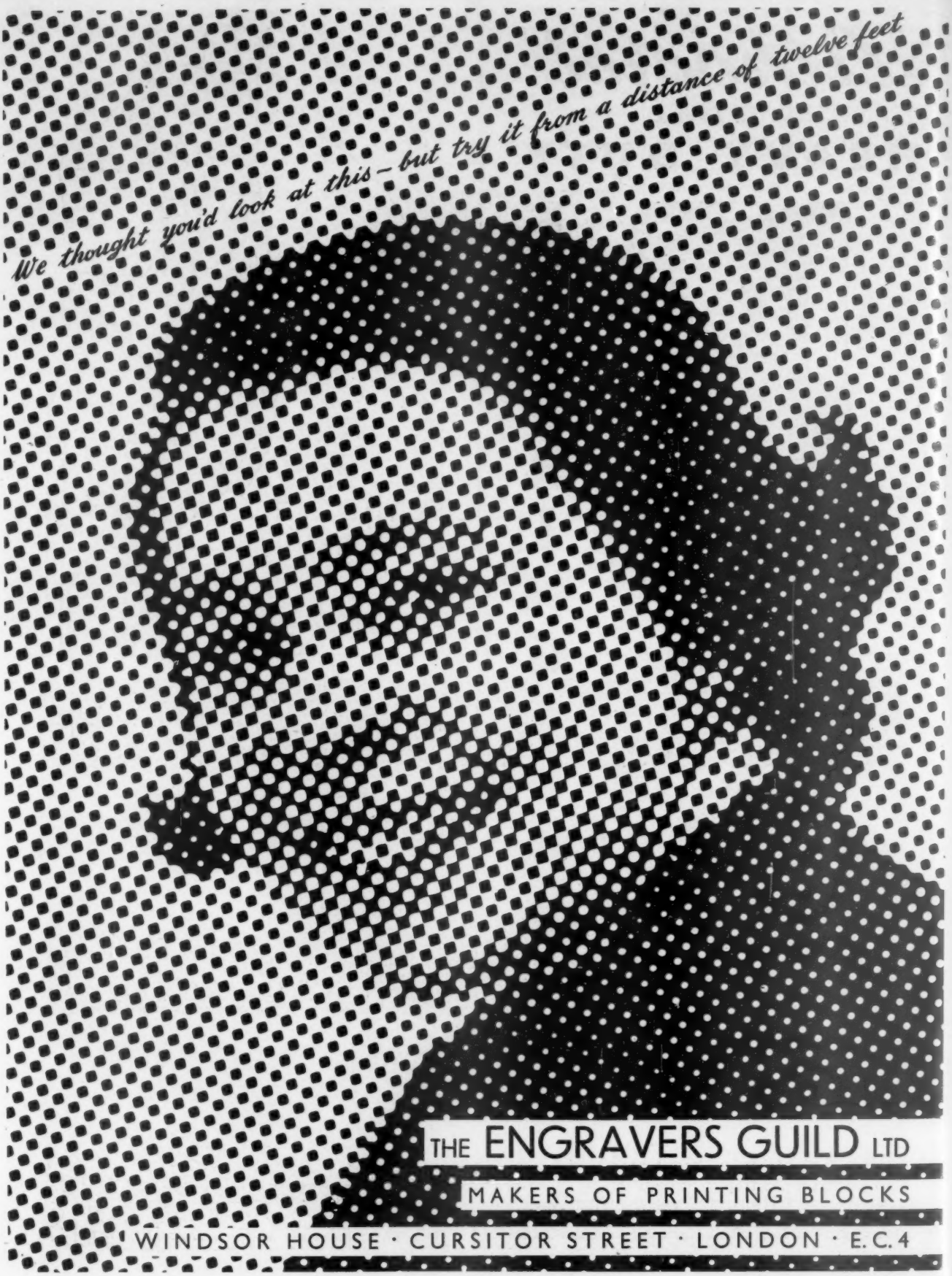
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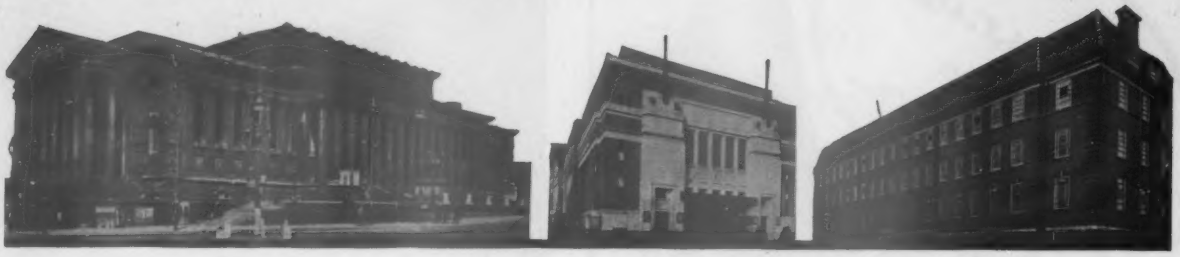
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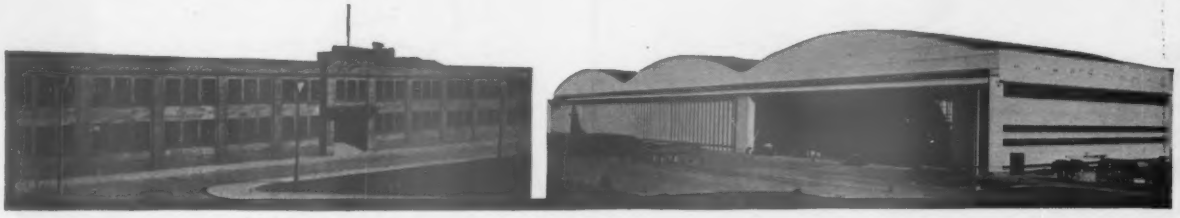
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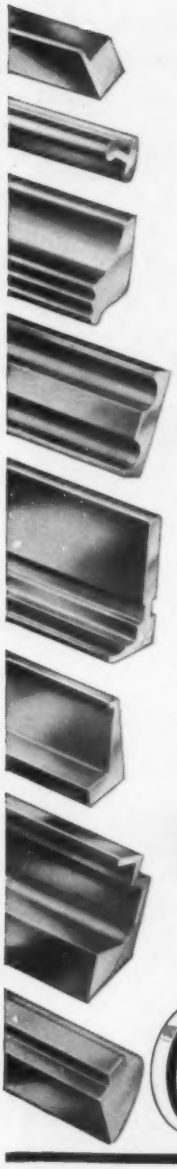
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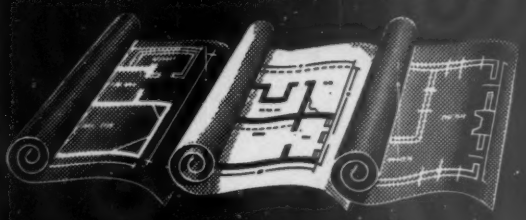
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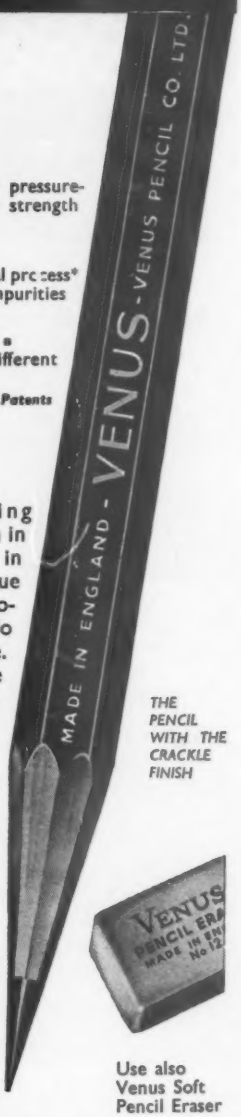
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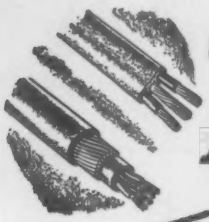
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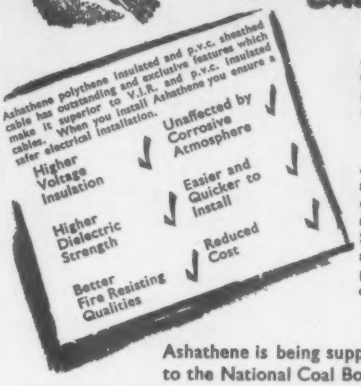
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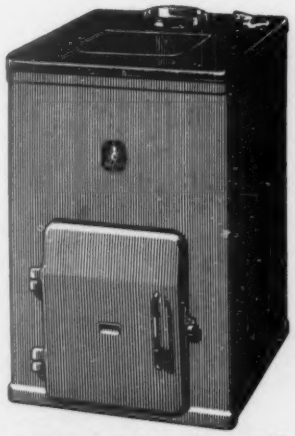
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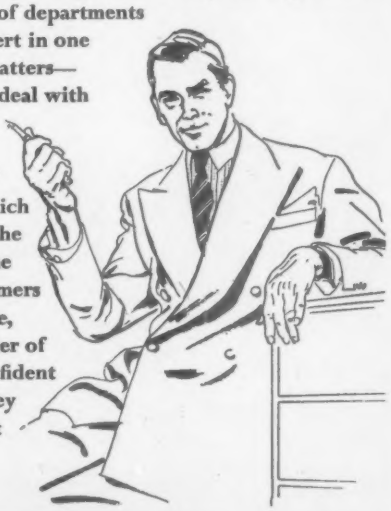
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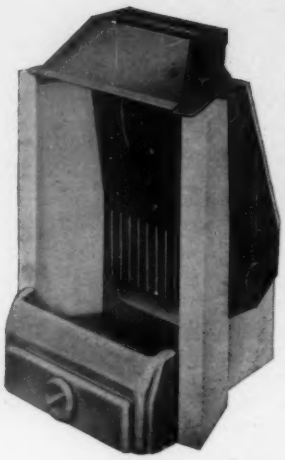
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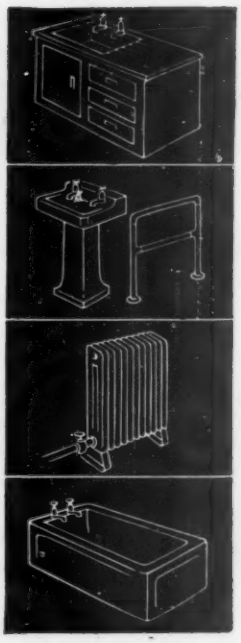
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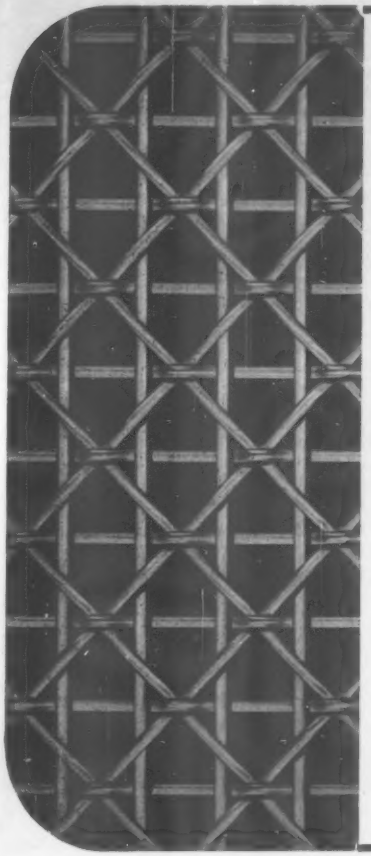
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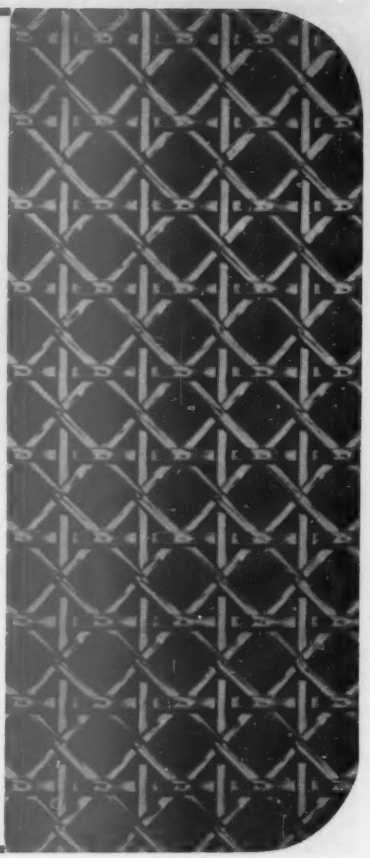
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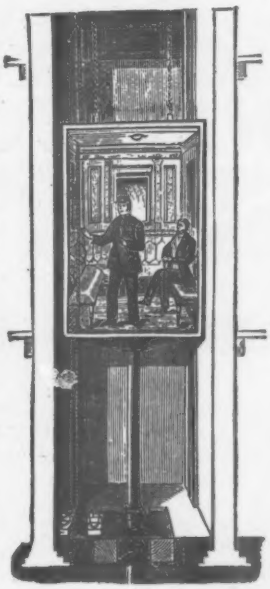
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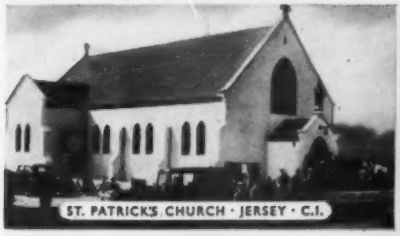
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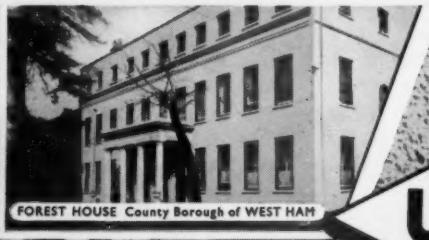
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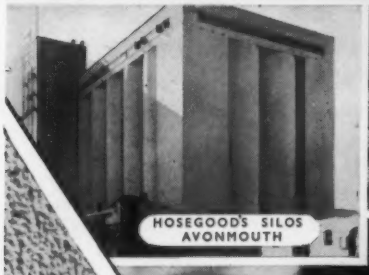


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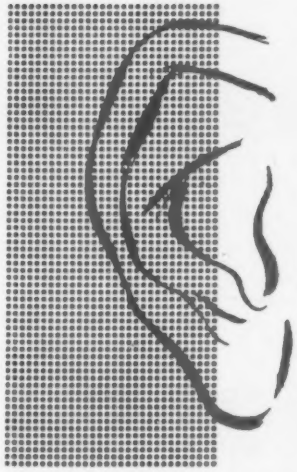
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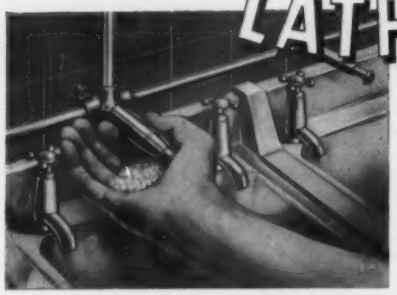
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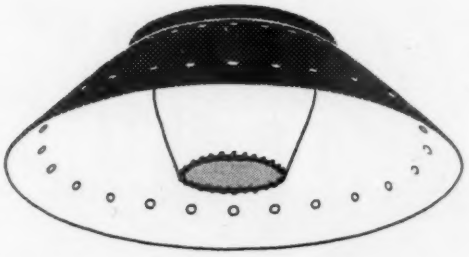
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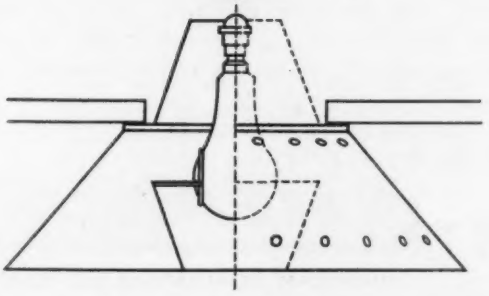
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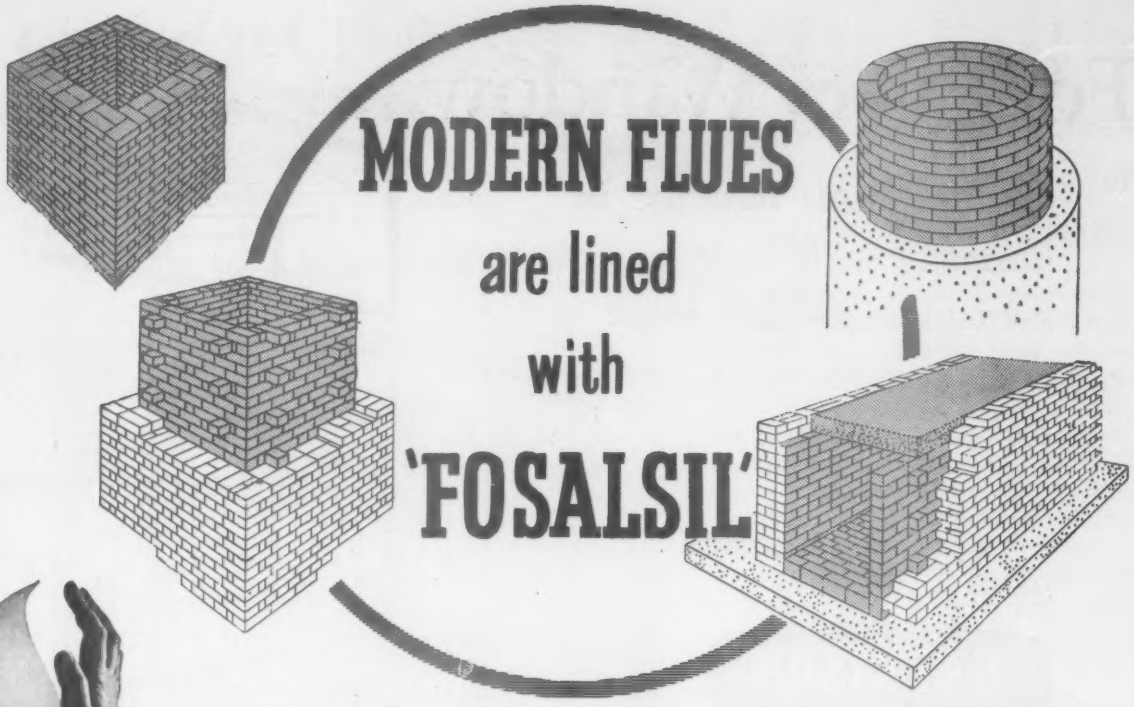
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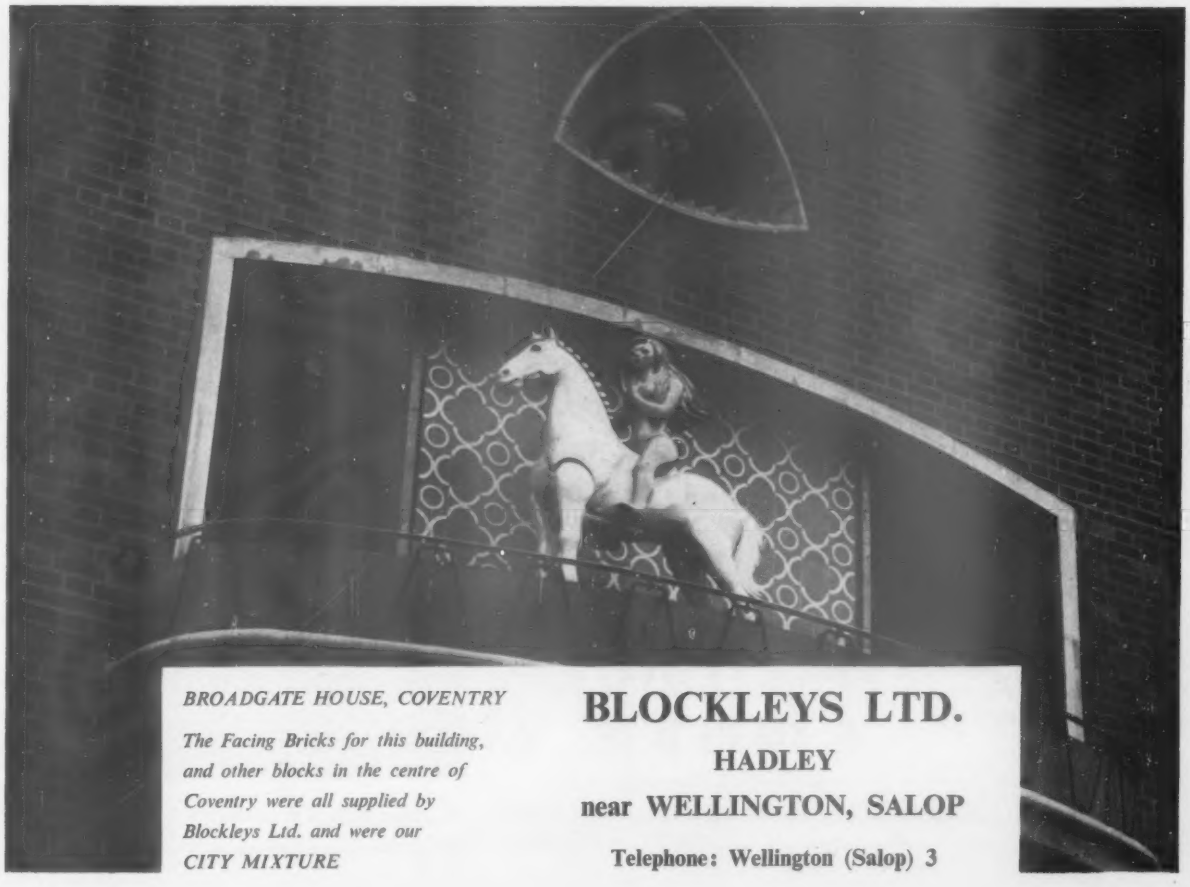


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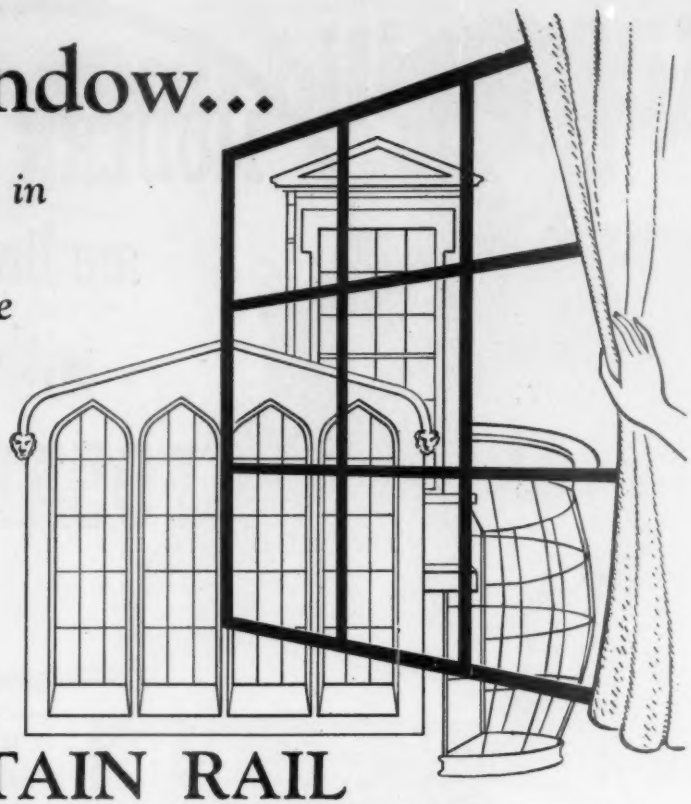
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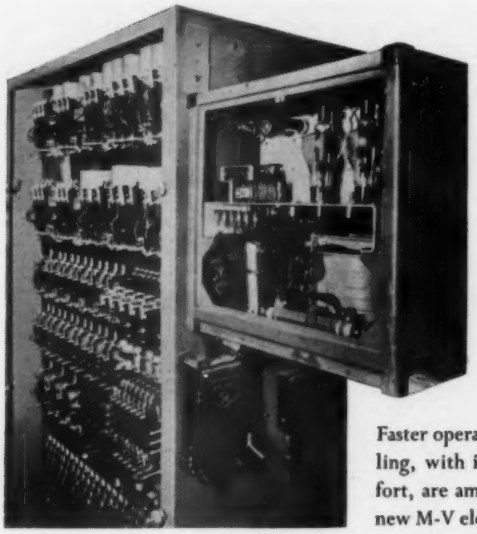
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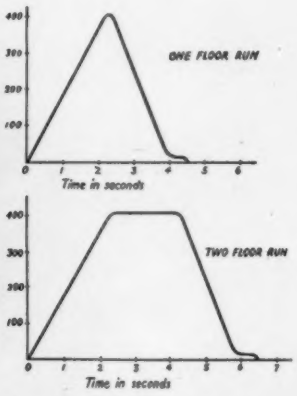
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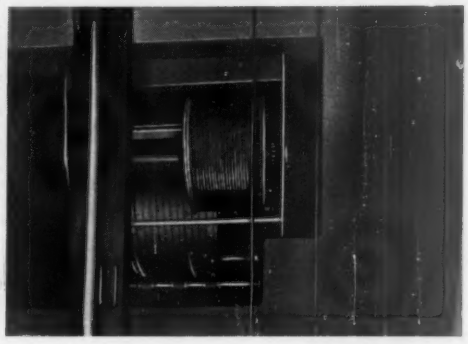


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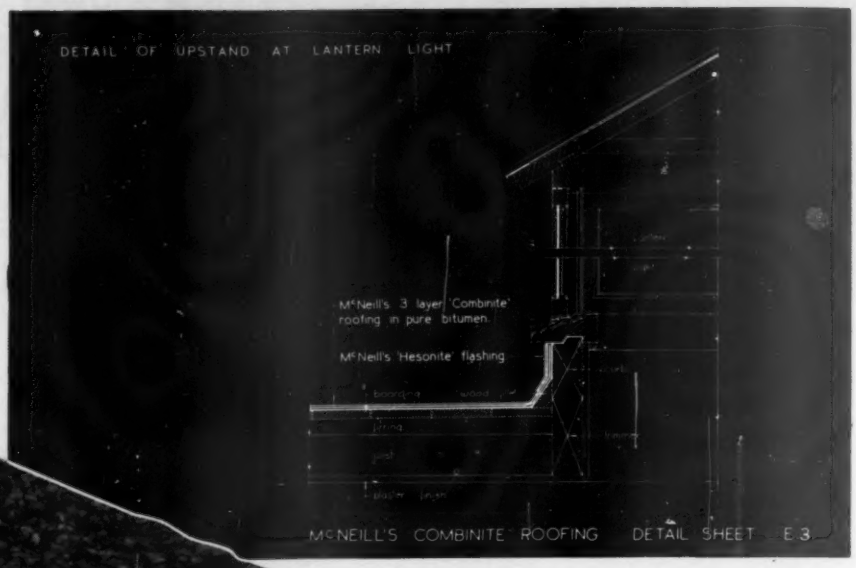
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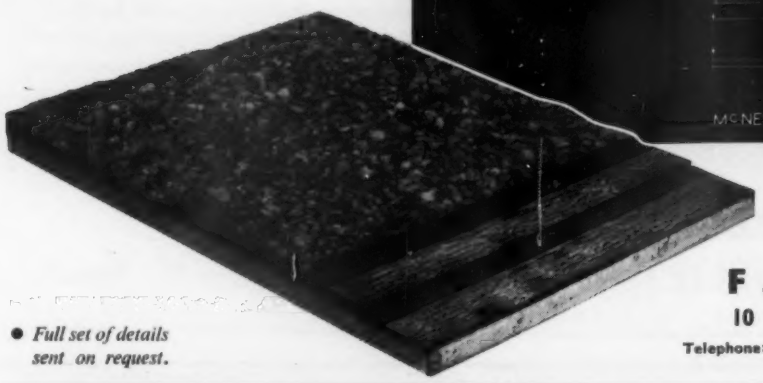
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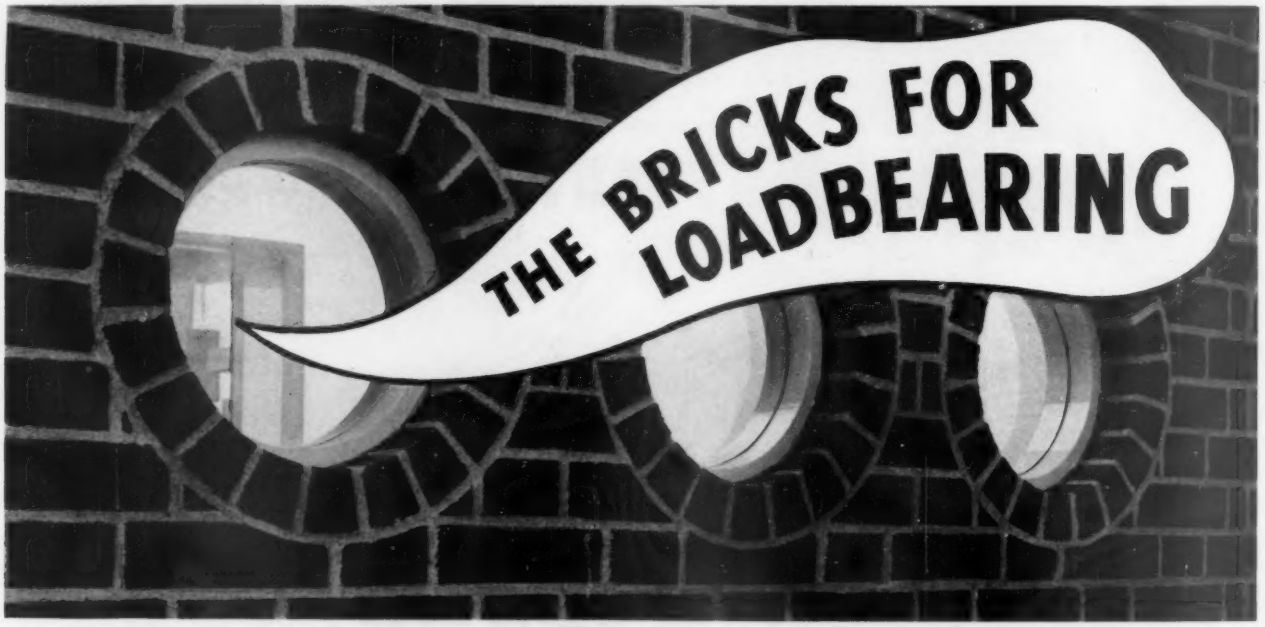
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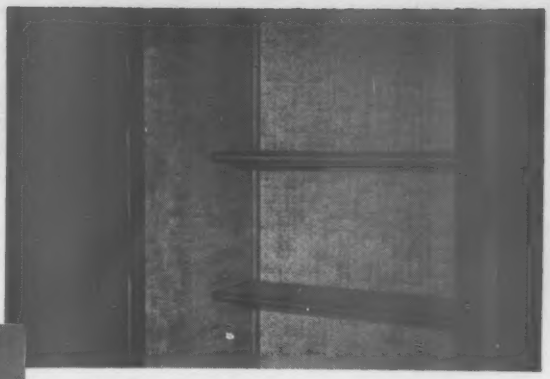
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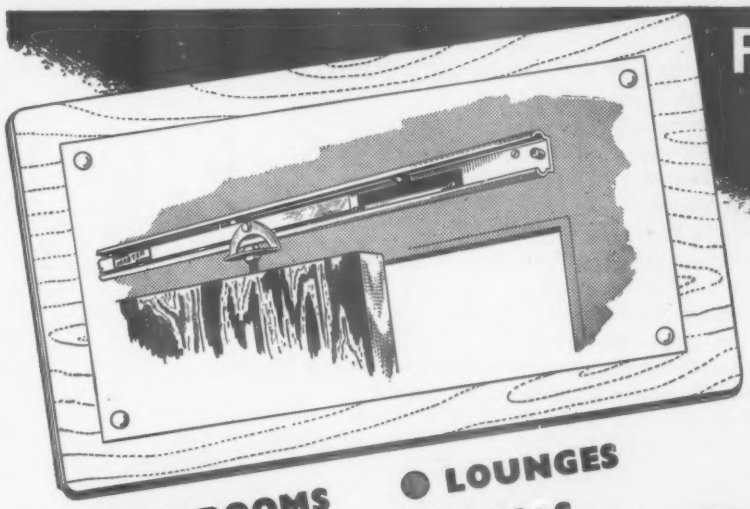
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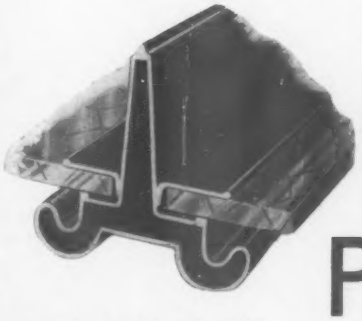
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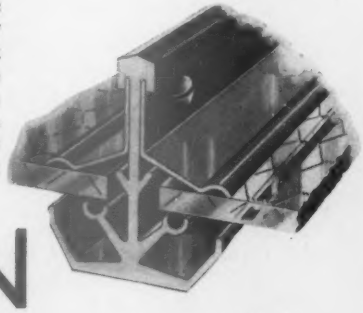
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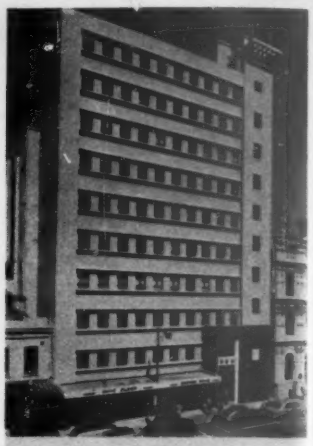
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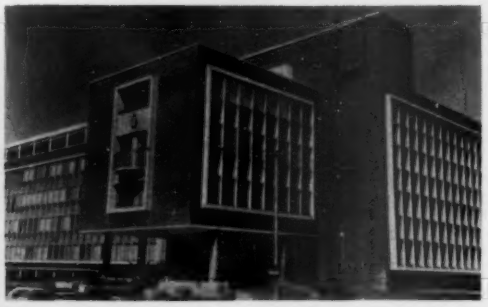
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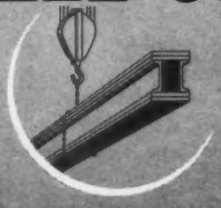
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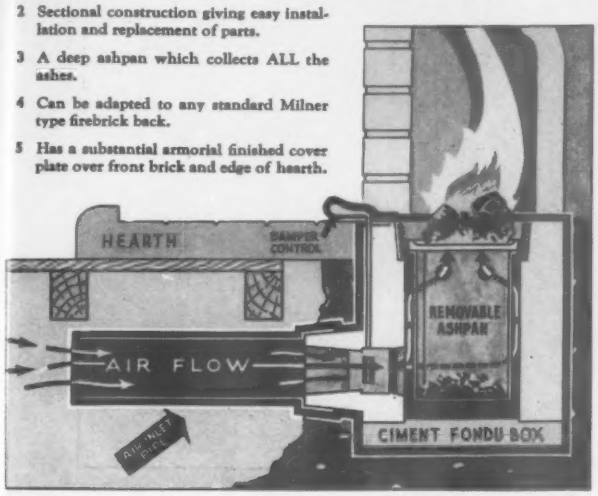
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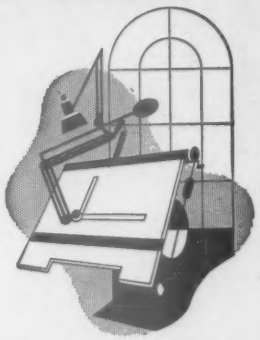
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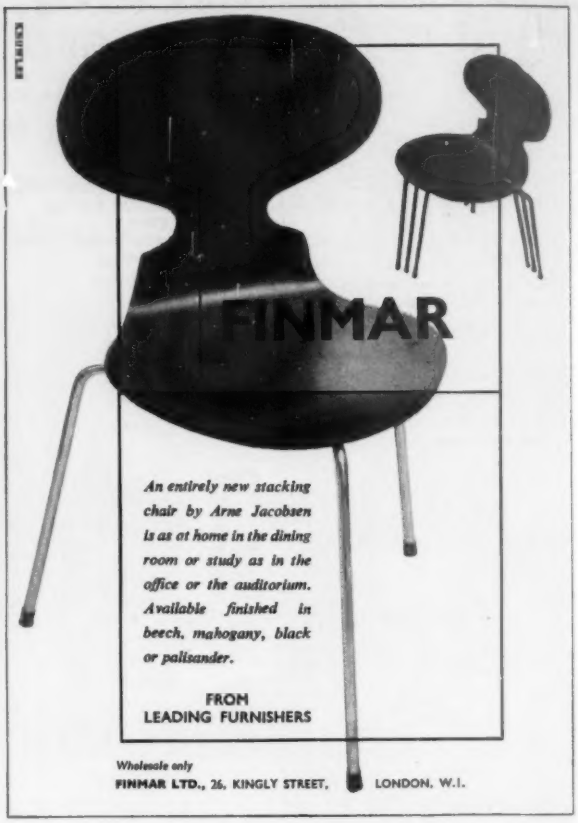
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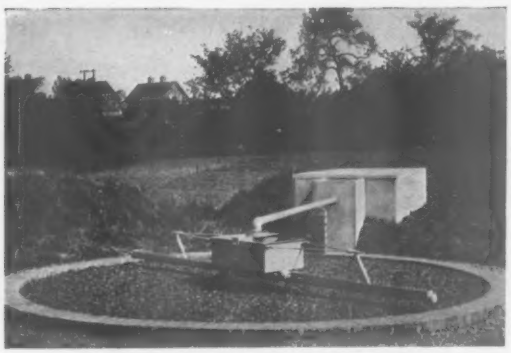
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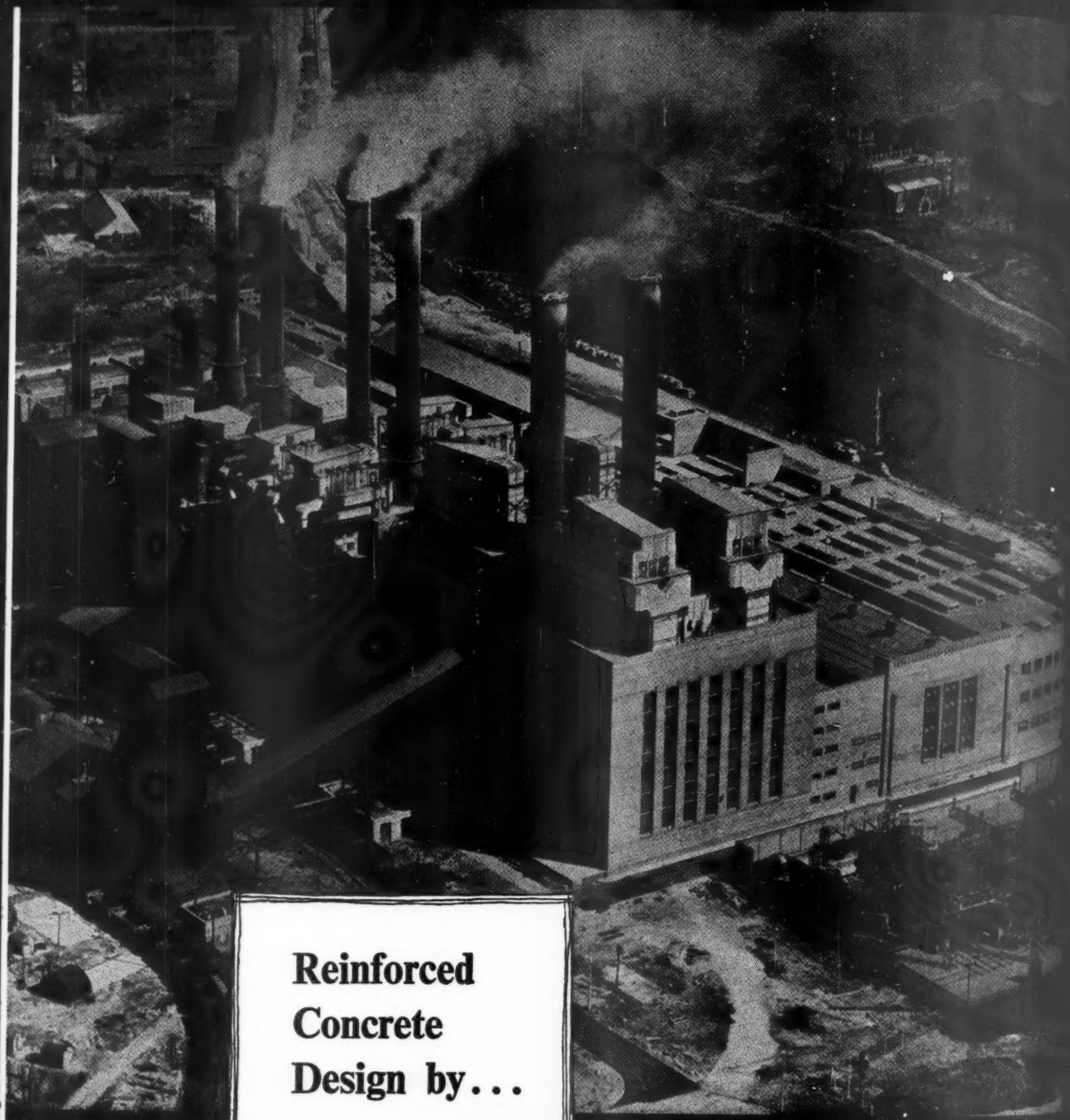
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